

33-445 Advanced Quantum Physics I
Fall Semester, 2012

INSTRUCTOR

Prof. Robert B. Griffiths

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CLASS MEETINGS

Monday, Wednesday, Friday, 9:30 to 10:20 am, DH A200

WEB PAGE

<http://quantum.phys.cmu.edu/quad/> or

<http://www.andrew.cmu.edu/course/33-445>

TEXTBOOKS

The course textbooks are Townsend, *A Modern Approach to Quantum Mechanics*, 2d edition, and Griffiths, *Consistent Quantum Theory*. Individual chapters of the latter are available online: <http://quantum.phys.cmu.edu/CQT/>

COURSE CONTENTS

The course will cover most of the material in Chs. 1, 2, 3, 4, 6, and 7 of Townsend, along with some of the material in Ch. 5: spin-half particles, rotations and angular momentum, unitary time evolution, wave mechanics in one dimension, harmonic oscillator. This will be supplemented where appropriate with material from Griffiths: toy models, stochastic histories, consistency conditions.

COURSE REQUIREMENTS

Problems will be assigned weekly on the course web page, and should be turned in on time if you expect them to be graded.

You are welcome to discuss problems with anyone. However, *the assignment is then to be written up separately by each individual*. This includes writing your own computer program (for plotting, or whatever) when that is required. Copying what others have written and turning it in as your own work is a violation of university policy on cheating and plagiarism.

There will be two in-class exams during the term, and a final exam at the end of the term. These exams determine (roughly) 2/3 of the final grade; 1/3 is based on assignments.