COURSE: PHYS 420 Quantum Mechanics
COURSE SYLLABUS: Fall 2015

Instructor: Carlos Bertulani
Office Location: Science 141
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Preferred Form of Communication: face-to-face, classroom, office hours

COURSE INFORMATION

Textbook:


Course Description:

Three semester hours. A course designed to introduce students to quantum mechanics. An introduction to modern quantum mechanics as applied to the hydrogen atom, molecules, and solids. If you do not learn quantum mechanics, then you will not understand the major developments of science, from electronic gadgets to stars. We will cover the first 5 chapters of the book.
1. The Wave Function.
2. Time-Independent Schrödinger Equation.
3. Formalism.
5. Identical Particles.

Student Learning Outcomes
1. Students will understand the discipline-specific knowledge in quantum mechanics, covering the subjects:

Syllabus/schedule subject to change
1. Basic concepts of quantum mechanics
2. Energy, momentum, operators
3. Schroedinger's equation, amplitudes, probabilities
4. Angular momentum, tunneling, one-dimensional potentials
8. The atom

2. Students will know the concepts of quantum mechanics and demonstrate a proficiency in the fundamental concepts in this area of science.
3. Students will be able to solve problems using their knowledge and skills in modern physics. They will use critical thinking skills to formulate and solve quantitative problems in applied physics.

COURSE REQUIREMENTS

Activities Assessments
The following measures will be used to assess the success of this course in achieving the above objectives:
Student Work: exams, project and class assignments.
• The course will have 2 midterm tests, plus a final computational project.
• The total grade will consist of class assignments, written exams and final project.

GRADING

Final grades in this course will be based on the following scale:

A = 90%-100%
B = 80%-89%
C = 70%-79%
D = 60%-69%
F = 59% or Below

Assessments
Class group assignments: 30%
Midterm exams: 40%
Final Project: 30%
COURSE AND UNIVERSITY PROCEDURES/POLICIES

Syllabus Change Policy
The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

Student Conduct
All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. (See current Student Guidebook). Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: Netiquette http://www.albion.com/netiquette/corerules.html

Students with Disabilities
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services
Texas A&M University-Commerce
Gee Library- Room 132
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
Email: Rebecca.Tuerk@tamuc.edu

Website: Office of Student Disability Resources and Services http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/

Nondiscrimination Notice
Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.