Tentative Syllabus for Physics 321

ATOMIC PHYSICS

Spring 2013

Catalog Description: Atomic Physics: Three semester hougs
A study of special relativity, photoelectricity, atomic structure and spectra, X-rays, and the wave nature of matter

Supplemental Description: The course focuses on quantization of charge, light, and energy, the photoelectric effect, Compton effect, Atomic spectra, Rutherford scattering, elementary quantum mechanics, and relativity

Textbook: Modern Physics
P. A. Tipler and R. A. Llewellyn
W. H. Freemand and Company, New York
Sixth Edition, 2012

Lecture Time and Place: TR 11:00 pm – 12:15 pm, STC-107

Instructor: Dr. A. R. Chourasia
Office: STC-232 (STC-113)
Phone: 886-5485; 886-5491; Fax: 886-5480
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Office Hours: 2 – 4 pm OR by appointment

Goals of the Course: Students will gain knowledge on basic experiments in physics that led to the development of modern atomic physics. They will learn Thomson's experiment, quantization of electric charge, Einstein's photoelectric effect, scattering of radiation by atomic particles, nuclear model, Bohr model of the atom, and the x-ray spectra.

Grading Procedure and Scale:

The grade will be determined from homework, two exams, and the final exam as outlined below:

- Homework and attendance 20 %
  (Late Homework penalty 10% each class day)
- Two Exams 25 % each
- Final exam (comprehensive) 30 %

90 and above:	A
80 and above but less than 90:	B
70 and above but less than 80:	C
60 and above but less than 70:	D
Less than 60:	F

Missing an exam without first making arrangements for make-up with the instructor (excused absence cleared before the exam) will automatically consume the failing grade. Missing other class periods will result in penalties as described under the attendance section below.

Any decision to curve the grade will be taken at the end of the semester.
Five unexcused absences will automatically result in a failing grade.

Lecture (Tentative)

Chapter 3	Quantization of Charge, Light, and Energy
Chapter 4	The Nulcear Atom
Chapter 5	The Wavelike Properties of Particles
Chapter 6	The Schrodinger Equation
Chapter 1	Relativity I
Chapter 2	Relativity II

Final Exam is on Tuesday, May 7 at 12:30 pm

Attendance and Tardiness: Students are expected to be on time and present for all class meetings. Excused absences can be arranged prior to the class period being missed for appropriate activities as determined by the instructor. If an emergency results in an absence, the student should contact the instructor as soon as possible informing the instructor of the emergency and inquiring about ways to make up the missed class. The instructor will make judgements on how to handle the situation. Possible reasons for an excused absence are listed in the " Student's Guidebook" under class attendance policy.

Classroom Behavior: Disorderly conduct which interferes with the normal classroom atmosphere will not be tolerated. The classroom instructor is the judge of such behavior and may instruct a disorderly student to leave the room with an unexcused absence or in more serious situations a student may be removed from the class with a failing grade.

Cheating and other Breaches of Academic Conduct: Academic cheating, plagiarism, and other forms of academic misconduct may result in removal of the student from class with a failing grade or may in extreme cases result

in suspension or expulsion from the University as described in the "Code of Student Conduct" section of the " Student's Guidebook".

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
Halladay Student Services Building
Room 303 A/D
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
StudentDisabilityServices@tamu-commerce.edu

Evaluation of Instruction: Students will be given opportunities to evaluate instruction near the end of the semester. The physics department utilizes a scantron graded questionnaire with statements regarding various elements of instruction and in addition utilizes an open ended form where students can make comments on all elements of the classroom. These comments are given to the instructor and department head soon after the grades are recorded. If students have concerns about the classroom experience during the semester they should inform the instructor of those concerns and failing a satisfactory response may, as a last resort, contact the physics department head with those concerns.