Course Description
This course is an introductory survey of key developments in the 20th century physics that shaped the modern era of physics research and applications. Topics include: special and general theory of relativity; historic development and principles of quantum mechanics; the basics of atomic, molecular and nuclear physics, quantum optics and lasers; solid state and condensed matter physics; elementary particles.

Prerequisite: PHYS 262
Corequisite: MATH 214

Course Textbooks

Instructor
Predrag Nikolic
Office: Planetary Hall, Room 209
Phone: 703-993-5068
Email: pnikolic@gmu.edu
Course web-site: http://physics.gmu.edu/~pnikolic/PHYS308/

Office Hours
Tue 10:30-11:30  (Thu 10:30-11:30 until Feb.10), or by appointment

Grading
homework 20%, midterm exam 40%, final exam 40%

Exams
- Entirely based on problem solving. Practicing problems during the semester, in addition to learning and understanding all concepts, is the only known way to acquire the analytical skills needed to pass.
- The use of literature is not permitted (closed book).
- A scientific calculator is needed for quantitative problems. Phones, tablets, laptops, etc. are not allowed.
- Problems will be similar but different from those given in homework assignments. The final exam will cover topics from the entire course.
- It is the responsibility of each student to attend classes during scheduled examinations as listed in the syllabus regardless of work or family considerations. Make-up exams will be given only to students with a valid medical excuse and they should contact the instructor as soon as they return to school.

Homework
- Assigned once a week on Thursdays (posted on the course web-site).
- Due at the beginning (9am) of the following week's Thursday class. Solutions will be published on the course web-site at due time, so late homework will earn reduced credit.
- Homework will be graded superficially, but completeness and clear evidence of independent effort to derive all final results are required to earn full credit.
Important dates
Jan 27: Last day to drop classes with no tuition penalty, last day to add classes
Feb 10: Last day to drop with a 33% tuition penalty
Feb 20: Last day to drop with a 67% tuition penalty, last day to drop classes
Feb 23 – Mar 27: Selective Withdrawal Period
Mar 9-15: Spring break
May 04: Last day of classes

Class, homework and exam schedule
Jan 20 Tue 1.
Jan 22 Thu 2. HOMEWORK 1 OUT
Jan 27 Tue 3. canceled due to snow
Jan 29 Thu 4.
Feb 03 Tue 5.
Feb 05 Thu 6. HOMEWORK 1 IN, HOMEWORK 2 OUT
Feb 10 Tue 7.
Feb 12 Thu 8. HOMEWORK 2 IN, HOMEWORK 3 OUT
Feb 17 Tue 9. canceled due to snow
Feb 19 Thu 10.
Feb 24 Tue 11. HOMEWORK 3 IN, HOMEWORK 4 OUT
Feb 26 Thu 12. canceled due to snow
Mar 03 Tue 13.
Mar 05 Thu 14. canceled due to snow
Mar 10 Tue spring break
Mar 12 Thu spring break
Mar 17 Tue 15. midterm review session, HOMEWORK 4 IN
Mar 19 Thu 16. MIDTERM EXAM (in the regular class time)
Mar 24 Tue 17.
Mar 26 Thu 18. HOMEWORK 5 OUT
Mar 31 Tue 19.
Apr 02 Thu 20. HOMEWORK 5 IN, HOMEWORK 6 OUT
Apr 07 Tue 21.
Apr 09 Thu 22. HOMEWORK 6 IN, HOMEWORK 7 OUT
Apr 14 Tue 23.
Apr 16 Thu 24. HOMEWORK 7 IN, HOMEWORK 8 OUT
Apr 21 Tue 25.
Apr 23 Thu 26. HOMEWORK 8 IN, HOMEWORK 9 OUT
Apr 28 Tue 27.
Apr 30 Thu 28. HOMEWORK 9 IN, optional homework 10 out
May 05 Tue 29. makeup class for Feb.17
May 06 Wed 29. makeup class for Mar.05 – final review session
May 07 Thu FINAL EXAM (in our classroom) … 7:30 – 10:15 am