PHYSICS 2A - LAB FINAL REVIEW

For the laboratory final you will be responsible for the following material:

- 1. Understand error propagation and uncertainties.
- 2. Know how to calculate the uncertainties in measurements using analog and digital measuring devices.
- 3. Know how to calculate the uncertainties in calculations using the appropriate error propagation equation.
- 4. Understand and define random and systematic errors.
- 5. Make measurements and calculations to the correct number of significant figures.
- 6. Know how to use every measuring device used in any lab and how to calculate its uncertainty.
- 7. Understand and know how to derive the theory associated with any of the labs performed during the quarter.
- 8. Know how to analyze data graphically using MS EXCEL.
- 9. Understand and explain the concepts associated with each lab.
- 10. Concepts and terms that you should know how to define and explain include:
 - 1. Systematic and random errors
 - 2. Error propagation
 - 3. Resultant vector (graphical and component method).
 - 4. Projectile motion
 - 5. Newton's 2nd Law
 - 6. Centripetal acceleration
 - 7. Uniform circular motion
 - 8. Conservation of Linear Momentum
 - 9. Conservation of Energy
 - 10. Conservative forces
 - 11. Torque
 - 12. Static equilibrium
 - 13. Simple Harmonic Motion
 - 14. Period of oscillation
 - 15. Amplitude of oscillation
- 11. Know how to write a coherent, comprehensive scientific lab report.
- 12. Know how to apply the kinematic equations of motion.
- 13. Know how to apply Newton's Laws of Motion to a system.
- 14. Understand how to describe uniform circular motion.
- 15. Know the conditions for static equilibrium.
- 16. What is lever arm?
- 17. What is the line of action of a force?
- 18. What is the Simple Harmonic Motion equation?
- 19. Know how to add vectors graphically and using component method.
- 20. Lab final will include a practical component.