Physics 121 Final Exam Outline for spring 2013:

The exam will consist of 21 questions.

Measurement

Problem 1. Significant figure problem
Problem 2. Dimensional consistency problem

Trigonometry

Problem 3. Right triangle problem

Vectors

Problem 4. Vector addition/subtraction problem

One-dimensional Kinematics

Problem 5. Computation problem
Problem 6. Computation problem

One-dimensional Rotational Kinematics

Problem 7. Computation problem

Note: There are no projectile motion problems on the final!

Introduction to Newton’s Laws

Problem 8. Concept question

Applications of Newton’s Laws

Problem 9. Centripetal force problem
Problem 10. Statics problem
Problem 11. Dynamics problem
Applications of Newton’s laws to rotating bodies

Moment of inertia

Problem 12. Concept question

Torque

Problem 13. Computation problem

Basic Definitions of Work and Energy

Problem 14. Know how to use formulas for potential for gravity and springs

Problem 15. Know how to use formula for kinetic energy

Work-Kinetic-Energy Theorem

Problem 16. Computation question

The connection between work and potential energy

Problem 17. Computation question

Conservation of Mechanical Energy

Problem 18. Computation question

Problem 19. Computation question

Collisions

Problem 20. Computation question

Conservation of angular momentum

Problem 21. Concept question