

September 2, 2008

TO: Physical Science & Physics Students

FROM: Mr. Menin

Subject: SCOPE OF EXTRA CREDIT ASSIGNMENTS

(1) Essay - 500 to 1,000 words on the adage: "Time is the duration of change."

- What it means to you. What it means in the context of a course in physics.
- Value: Up to One Ten Point Quiz/Test Coupon

(2) Want Ad Review – "What do you want to be when you grow up?"

- Review all employment/help wanted ads of any given Sunday edition of the **Boston Globe or other major metropolitan newspaper** – e.g. NY Times, Washington Post, et al, but not the Worcester Telegram.
- Calculate the ratio (*in %*) of the area of ads for your specific employment selection area to the total area of all adds as measured in cm^2 .
- Calculate the ratio (*in %*) of the number of ads for your specific employment selection area to the total number of all adds.
- Justify – in an essay (*of 500 to 1,000 words*) of why (*or why not*) you (*still*) wish to pursue a career in your chosen area.
- Value: Up to One Ten Point Quiz/Test Coupon

(3) Derivation of the kinematic relationship of displacement in the "Y" direction as a function of the displacement in the "X" direction, so as to prove that the motion of any streamlined object (in the absence of air resistance) - projected at an initial velocity of "V" - at an angle θ to the horizontal - is parabolic in shape.

- Once derived, provide a sample graph towards showing that the resulting curve of the "Y" displacement versus "X" displacement of the object is indeed of parabolic shape. A curve plotted via MS Excel will be considered very favorable.
- Value: Up to One Ten Point Coupon

(4) Fabrication of a constant horizontal velocity demonstrator for kinematics.

- Fabrication and/or use of existing available constant velocity and spring loaded projectile devices machines/toys devices so as to show that the velocity of a standard kinematic projectile is constant in the horizontal direction.
- Value: Up to One Ten Point Quiz/Test Coupon

(5) Fabrication of a mechanical demonstrator to show that the lower-most acute angle of an inclined plane is equal in magnitude (degrees) to the angle formed by a perpendicular to the inclined plane and the vertical direction.

- Value: Up to One Ten-Point Quiz/Test Coupon..

(6) Essay - 500 to 1,000 words on: “Incorporate Your Physics Idea !”

- Citing ideas from personal experience (*e.g. other science classes you’ve taken*) prepare an essay on how this class can be expanded. For example, develop a particularly interesting hands-on lab exercise from a parent’s recollection and receive credit (*Value: Up to One Ten Point Quiz/Test Coupon*) if the lab/suggestion is reasonable/implemented.

(7) Catch Mr. Menin

- Catch Mr. Menin in an “at-the-board” mistake of physics or math (*i.e. after he’s “taken his hand off the piece”*) and receive up to 5 points extra credit on a quiz. **The “catch” must be typed-up, fully describing the incident for documentation purposes.** Un-typed corrections will be rewarded with one chilled mint.

(8) Make A Poster

- Make a poster of one or more pertinent relationship of Physics and receive up to 5 points extra credit on a specific test or quiz. Poster must be made of a single sheet of poster stock. Very neat block lettering must be used – readable by the instructor throughout the room – computer generated “Arial” font of “200” or larger is suggested. Poster should be sized so as to fully utilize any given cabinet door-front with a maximum of a 1” to 2” border of wood cabinet door front showing. Posters will not be posted on the day of any particular test or quiz. **See Samples Posted.** Note: Not useable during MCAS.

(9) Submit a Joke of Physics

- Type up a single joke of “Physics” applicable to a current or past lesson and receive an extra credit coupon worth up to +2 points on any particular test or quiz. One joke per person per week may be accepted.

NOTES:

1. Only high quality submittals will be accepted. FURTHER NOTE: When any particular test or quiz is referenced in any of the above listed extra credit opportunities it should be noted that the June Final Exam is excluded.
2. **Due date: Anytime – but coupons will not be issued on the day of any exam/quiz & coupons must be applied to the particular Test/Quiz at the time the Test/Quiz is turned in (*i.e. they can’t be retrofitted*).**