

objectives for today's in-class work and quiz

Eric Edlund <eric.edlund@cortland.edu>

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To: Sean Nolan sean.nolan@cortland.edu <sean.nolan@cortland.edu>

Sean,

While it has never been a practice I have seen implemented, I was thinking that a good thing to do for observations would be to share a list of specific objectives with the observer prior to the class. Copied below are some general objectives for the class and specific objectives for the slides that I am presenting today. Please let me know if you have any questions.

Thanks,
Eric

Class relationship objectives:

1. Communicate to students that we are listening to them and that we have extended the due dates and will be setting the WooClap participation at 75%.
2. Create an engaging and respectful classroom environment that students enjoy and feel comfortable asking questions/volunteering answers
3. My goal for the day is to work with students on setting up and solving the problems, leaving the last calculation of numerical answers for them to submit in WooClap on their own. The intention here is twofold:
 - a. UCM is a notoriously tricky subject and can quickly confuse students. The idea is to guide them along, in something of a collaborative work environment, to make sure that we are setting up the problems correctly ****before**** we go to the WooClap submission.
 - b. By guiding students in this way it is my hope that these lessons become confidence-building exercises that help boost class morale.

General content objectives:

1. Reinforce conceptual understanding of Newton's law using both WooClap questions and general discussion.
 - a. use hand-drawn representations of problems to model to students the specific process of problem solving
 - b. emphasize the orderly nature to successful problem solving
 - c. emphasize the use of FBDs
 - d. emphasize that we always analyze Newton's 2nd law in component form
2. Solve problems with specific numerical answers to conclude the worked problems in class

Specific objectives in slides:

1. First problem (#5 on slides): provide a concrete example of a force problem involving UCM.
 - a. Show how we set up the appropriate FBD and identify the direction of the acceleration.
 - b. Show how the answer follows immediately from regular use of Newton's 2nd law
 - c. let students know that this is a problem from the HW (but with different numbers) to show them the method that they can apply again later
 - d. There is some extra information provided in the description, so part of the problem solving process will for us to use general problem solving skills to determine what information is relevant.
2. Second problem (#6 on slides): this one is slightly more abstract (apparent weight) than the previous as it asks about apparent weight. The idea is that in the previous problem set the stage for the application of the equations for this problem and we need to now apply that thinking to a new problem.
3. Third problem (#7 on slides): This last problem incorporates UCM and friction and the idea here is to create a fun problem (escape from zombies) that asks essentially whether we can escape from them.
 - a. repetition of the application of UCM, but now in a different direction (now horizontally)
 - b. requires us to consider the difference between required and maximum static friction force, reinforcing that key conceptual aspect of friction

Objectives for quiz:

1. First conceptual questions are drawn from in-class WooClap questions and are meant to reinforce discussions that have taken place in class
2. The final analytical questions are meant to bring students through the problem solving process by first asking about the number of forces (reflecting the idea of a FBD), then the components of the gravitational force along the slope and perpendicular to it, then the acceleration, and finally tying it off with application to a kinematics problem.