Guidelines for the Preparation of Physics Assignments

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In preparing your assignments for Physics 2D03, you should take care to follow these guidelines. They will help you write clear solutions which benefits you by (a) making it easier for your TA's to give you full marks and (b) making it easier for you to understand what you did when it comes time to study for tests and exams. **For full marks, you must follow these simple rules:**

- Your handwriting must be clearly legible.
- Write your name and student number clearly on the top of every page. Leave room on the first page or a title page for the TA to write your mark.
- A few words of explanation **MUST** accompany each significant step in any solution (i.e. basically anything other than manipulating an already-explained equation). Even if you have the correct expression or number at the end of your solution, marks **will be docked** if it is not absolutely clear how you arrived at your result.
- When doing problems involving numbers, keep track of significant figures. For intermediate calculations, you should use extra figures beyond the significant ones. Round your final result to the appropriate number of significant figures.
- If there are units in the question, make sure there are units in your answer, and that they are sensible. If you come out with a unit like $\mathrm{m^3sV^{-4}J}$ for something that is supposed to be an acceleration, you've obviously done something wrong. TA's hate it when students don't notice things like that. Don't assume your units worked out without checking.
- Draw a diagram and label it with all relevant quantities: angles, axes, forces, labels for particular points, etc.
- Use a clear system of symbols, defining each one separately where it is not absolutely clear what they mean. For example, if there are three accelerations in the problem, do not use the letter 'a' for all of them; instead, label them a_1, a_2, and a_3 or any other sensible system that

suits the problem. Wherever possible, use standard letters for physical quantities: v for speed, a for acceleration, F for forces, (x, y, z) for distances, etc. In cases where there is some confusion, take extra care to define your symbols clearly (for example, your book uses V for potential energy–don't confuse it with v for speed).

- Clearly distinguish between vector and scalar quantities. Acceptable notations for vectors in handwritten notes are $\overrightarrow{v}$ and $\underline{v}$. Typset notes can also use bold symbols for vectors, like this: $\mathbf{v}$.

- In this course, you will be doing longer problems involving multiple steps, often combining several equations. Important equations (such as at the end of a manipulation) should be clearly labelled with numbers or symbols. When subsequently using an equation, refer to its number. Your final answer should be boxed or otherwise strongly highlighted. Solutions should look something like this:

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Integrating, we find:

$$\begin{aligned} y &= \int_0^x x^2 dx \\ y &= \frac{1}{3}x^3 \\ x &= (3y)^{1/3} \end{aligned} \tag{1}$$

Repeating this process for z, we find:

$$\begin{aligned} z &= \int_0^x e^x dx \\ z &= e^x \end{aligned} \tag{2}$$

Combining equations (1) and (2), we derive the final result:

$$\boxed{z = e^{(3y)^{1/3}}} \tag{3}$$