

COMPILATION: What 2nd semester content can be done in 10 weeks?

Date: Thu, 23 Jan 2003

From: John Luvera <jluvera@YAHOO.COM> (a novice modeler)

... Please comment on what topics (castle, light, waves, or e&m) I should do and whether or not they can be done in a 10-week time period. I am comfortable modeling the remaining mechanics units but I never modeled the other topics. Which of the topics, if any, are easier to do or is it a matter of personal preference?

Date: Mon, 03 Feb 2003

From: Michael Crofton <croftmd@attbi.com>

Hello John,

I am about to begin my last unit in Mechanics and will finish up in a little over 2 weeks. That leaves me 13 weeks to cover other topics. I think it is a matter of personal preference what you decide to do. My suggestion is that you cover what you enjoy the most (or what your students would). I happen to enjoy waves and spend a great deal of time there so electricity gets shorted. (No pun intended.) I spend roughly 4 weeks on mechanical waves and sound, 4-5 weeks on different topics in models of light and 4 weeks on electricity.

Date: Tue, 04 Feb 2003

From: Richard McNamara <richmcn@EARTHLINK.NET>

IMHO, I'd say that CASTLE is the easiest of the sets of materials to jump into for a novice modeler. It does take a very different mindset than a traditional approach, but with the availability of the original CASTLE Manual and the Modeling Modified version in hand, it is very accessible to the novice modeler.

Date: Tue, 04 Feb 2003

From: Tim Burgess <tburgess@JAGUAR1.USOUTHAL.EDU>

John,

Every situation is different and each year I have found myself "tweaking" what I do to match my students. Heck, I like changing things up, it keeps me awake and alert and reflective about what I do.

I teach a variety of classes at our small school. My day includes an AP-B Phys, an AP-C Mechanics, an Honors Chemistry, a Physics I and an Honors Physics I !!! (10th graders are required to take Physics at my school.) SO I work hard to conserve my time by "combining preps" as much as possible!

Over the last three years I have finished the energy unit just after the semester break in Physics I. My honors students were actually done much earlier but I supplemented that material with a 2 weeks of experiences on heat and energy. This way my regular and Honors classes are "in step" as we go over electricity which is abbreviate with modeling EM units on Field, Potential & Circuits. This gets me to the final 9 weeks where I do as much of the Light units as possible (ending at the photoelectric effect is a success for me though the unit pushes on to the structure of the atom). I encourage my students to do research projects relating to light and/or plasma, so this unit selection and organization seems appropriate for my situation.

I could do a better job on waves (doing sound which I omit) if I had the time but we discuss water & light waves thoroughly. Electricity is also shorted in my approach, but those who elect AP-B (a second year course here) will get MUCH more of this. I have found that the Light topics fit and provide a nice structure for students as they bridge into Chemistry the next year (11th grade).

One reason for my hesitation to share my time line is because I am clearly shorting some units and areas to more deeply investigate others. It is great that the modeling approach has resources that provide us with choices! We can customize a course to match our students and program goals. It is great that you are THINKING and REFLECTING about what you teach. Your struggle is a sign that your modeling will be much better than if you just turned the page to the next topic!

Your professional judgement is the most important factor. Good Luck!

Date: Mon, 03 Feb 2003

From: Larry Dukerich <dukerich@asu.edu>

I am somewhat reluctant to give my own timetables because they are just that - my own. What works for one (presuming that it DOES work) may not work for another. Another reason I hesitate is that it's really hard to compare students from different schools. Nevertheless, this is what I did in my regular physics class last year. It actually took me a bit longer than one semester to get through mechanics. I finished momentum and was ready to move on at the end of January. I next did Models of Light - Particle in about 5 weeks (March 8 practicum finishes unit). Next I spent just over two weeks doing a portion of the waves unit. I would have loved to do more, but time did not permit it. I had as my goal for the 2nd semester, to get through 6 units of CASTLE, so I cut back on waves. I started CASTLE on April 8, did the first two units in two weeks, did unit 3 & 4 in 2+ weeks, then spent the remaining 2+ weeks on units 5 & 6, before wrapping up the year, preparing for final exams [at the end of May].

Date: Tue, 04 Feb 2003

From: Larry Dukerich <dukerich@asu.edu>

Hi John,

You wrote:

>We start school after Labor day here in NJ. I will finish circular
>motion this next week and still have the units on energy and
>momentum remaining. I anticipate to be done with mechanics by the
>end of our 3rd quarter. Is it typical for a first time modeler to be at this point?

Absolutely. Generally, as you become more comfortable with the approach, you learn to move along at a faster pace.

> I understand your comment about students and I think scheduling
>also needs to be considered. I wouldn't mind if it took all year to
>finish mechanics but I am somewhat pressured by my supervisor who wants
>the students to have exposure to more topics than just mechanics. I
>am satisfied if they know something well as opposed to knowing a little about a lot.

There is a faction of modelers who believe it is just fine to spend the entire year on mechanics. What they learn, they learn well, but I, too, think there is certainly more of interest in beginning physics than mechanics.