Course Evaluations (15 min)

Model: EM Waves – Interactions with Matter

Act 9.5.2 Finish (20 mins)
Act 9.5.3 EM Waves & Polarization II: 9.5 FNTs (35 min)

Model: Quantum Mechanics – Discrete Energy Levels & Light Quanta

Act 10.1.1 Quantization of Atomic/Molecular Energy States and Interaction with Light (60 min)

Learning Goals:

- Understand that when EM waves are emitted or absorbed by atoms or molecules, the EM waves are emitted or absorbed as discrete "bundles" of energy–the photon.
- Understand that the energy of a photon is proportional to the frequency of the EM radiation with the proportionality constant equal to Planck's constant, *h*.
- Understand that there are discrete electronic energy levels in atoms and molecules
- Understand that when electrons change energy states they either emit or absorb an energy equal to the difference of the energy of the two states.
- Understand that the electrons in atoms and molecules can emit or absorb energy as discrete photons or to the thermal vibrational system of the atoms or molecules.

Act 10.1.2 Fluorescence - light absorbed is not equal to light emitted (30 min)

Learning Goals:

- Understand how the frequency of light absorbed may be different from that emitted
- Understand the energy transfers that happen when a molecule fluoresces

Announcements:

Be sure to check the Physics 7C web pages for announcements regarding extra office hours, review sessions, and the location where you will take the final exam.

The following Models and Concept Groups were coved in 7C this quarter.

Wave Model

8.1.x: Waves, graphing, total phase
8.2.x: Superposition: basics and 1D
8.3.x: Superposition in two dimensions
8.4.x: Superposition that depends on frequency: Beats
8.5.x: Standing waves

Ray Model

8.6.x: Reflection and refraction
8.7.x: Lenses

Field Model

9.1.x: Electric Field and Force
9.2.x: Fields, Forces, Potential, and Potential Energy (Electric)
9.3.x: Magnetic Field and Force
9.4.x: Consequences of changing fields
9.5.x: Electromagnetic Waves and Polarization

Quantum Mechanics

10.1.x: Quantization of light and energy levels

Your homework:

1) Look over the Activity Sheets and your notes. Decide which Concept Groups you understand well and which you need to study in more detail before the final exam.

2) Compile a list of questions about those Concept Groups you need to study before the final exam. Bring this list to class for DLM 19.