**Review Topics for Final Exam**

Read the corresponding chapters in the textbook, review the posted materials and interactives on Bb, use the class slides as a summary. Practice answering questions of the types in worksheets, the online quizzes and those after each chapter of the textbook.

1. **Colors and color generating mechanisms**

* Physical colors – the visible spectrum.
* Color perception – the cones and rods in the eye and their sensitivity.
* Color due to scattering - diffuse reflection off surfaces; the color of the sky.
* Primary colors and their addition.
* Color filters and pigments.
* Color of thin films due to interference (numerical problems, see Q5 in WS\_6).
* Color by dispersion and diffraction (check again Units 2 and 3).

1. **Oscillations**

* Periodic oscillations. Definitions of period and frequency (numerical problems).
* Simple Harmonic Motion (numerical problems using Hook’s law and the natural oscillator frequency equations).
* Damping and damping time. Resonance.

**3) Sound**

* Properties of sound waves – speeds depending on media (numerical problems).
* Waves in springs – harmonics (numerical problems).
* Waves in open and closed pipes – harmonics (numerical problems).
* Fourier analysis (sketches of amplitude vs. frequency).