Due: Thursday April 24, in Class.

Problems:

1, 3, 6, 9, 13 (Hint, use Sellmeier equation and the coefficients for SiO\textsubscript{2} in Table 3.1), and 14 in Chapter 3.

7. Consider a symmetric planar waveguide with $n_c = 3.2$, $n_f = 3.5$, and $n_s = 3.2$. The optical wavelength is $\lambda = 1\mu m$. Within the range of $0 < h < 1.5\mu m$, plot the curves for group velocity $v_g$ vs. thickness $h$ for all existing confined TE modes. Please indicate the corresponding mode names on the plot.