

Physics 108 Assignment#5 (due on 5/4/15)

**Reading materials:**

*Pedrotti 3<sup>rd</sup> Edition:*      **Chapter 11:** 11-1 through 11-4

*Lecture Notes:*              pp. 49 - 62

**Homework:** (Pedrotti 3<sup>rd</sup> Edition)

1.      11-1
2.      11-3
3.      11-4
4.      11-5
5.      11-10
6.      11-11
7.      11-13
8.      Show explicitly that the spatial resolution of a small object  $y_0$  viewed by a microscope with an objective of focal length  $f_0$  and an effective diameter  $d$  (determined by the Entrance pupil  $E_nP$ , remember that?) is given by  
$$\delta y_0 = 1.22 * (f_0 / d) * \lambda .$$