Physics 108 Homework Assignment#3 (due on 4/18/2016 and 5/12/2016)

Reading materials:

Homework: (Pedrotti 3rd Edition)

1. 4-11 (Math review)

2. 4-12 (Math review)

3. 4-13 (Math review)

4. 5-4   (Math review)

5. Derive the total phase difference between the reflection of a single monochromatic beam (vacuum wavelength λ_0) from two parallel surfaces with n´ (semi-infinite, incidence angle θ´), n (thickness d, refraction angle θ), n´ (semi-infinite).

6. 7-4

7. 7-11

8. 7-14

9. 7-19

10. 7-20

11. 8-1

12. 8-2

13. 8-3

14.   (**Due 5/9/16**) *Landscape Lens*: Perform the Introductory Exercise on Landscape Lens using OSLOEDU software. Show YOUR results by (1) displaying the starting "Surface Data" and "Lens Drawing" for paraxial rays and non-paraxial rays; and (2) displaying your optimized "Surface Data" and "Lens Drawing" for paraxial rays and non-paraxial rays. (You may also try the following condition for start: and "draw off").

SRF	RADIUS	THICKNESS	APERTURE RADIUS	GLASS	SPE
OBJ	--	1.6000e+03	582.352375	AIR	*
1	21.807957 V	4.000000	11.666830 S	BK7	C
2	27.777778	12.647480 V	9.997114 S	AIR	
AST	--	155.058604 S	4.341641 AS	AIR	*
IMS	--	--	67.000000		*