

OPH 112 OPHTHALMIC LAB II

COURSE DESCRIPTION:

Prerequisites: OPH 111

Corequisites: None

This course continues the study of optical laboratory procedures introduced in OPH 111. Emphasis is on prescription interpretation, focimetry, and finishing techniques. Upon completion, students should be able to duplicate lenses, use intermediate formulas, and identify materials and procedures used to safely fabricate prescription eyewear to specifications. Course Hours Per Week: Class, 2. Lab, 3. Semester Hours Credit, 3.

COURSE OBJECTIVES:

Upon completion of the course the student will be able to

- a. Layout and block using prism calculations for surfacing and finishing of single vision and multifocal lenses.
- b. Neutralize single vision, multifocal, and prismatic eyewear.
- c. Demonstrate finishing procedures for specialty lens designs.
- d. Demonstrate faceting, grooving, and drilling of lenses.
- e. Chemically temper/Heat treat glass lenses.
- f. Tint lenses.
- g. Solder metal frames.
- h. Repair zyl frames.
- i. Safely complete Rx glasses to within ANSI standards from job ticket through bench alignment and final inspection.

OUTLINE OF INSTRUCTION:

- I. Laboratory safety
- II. Neutralization of Single Vision, Multifocal, and prismatic eyewear.
- III. Prism applications
 - A. Formulas
 - B. Prescriber and lab prism notation
 - C. Grinding prism for decentration and for prescribed prism
 - D. Yoked prism or prism thinning
 - E. Correcting unwanted prism
- IV. Chem Tempering/Heat treating glass lenses

- V. Tinting
- VI. Surfacing and finishing specialty lenses
- VII. Faceting lenses
- VIII. Drilled rimless lenses, Grooved lenses
- IX. Solder metal frames
- X. Perform hidden hinge and shield repairs on zyl frames.

REQUIRED TEXTBOOK AND MATERIALS:

Brooks. Understanding Lens Surfacing: Butterworth-Heinemann, 1992.

Brooks. Essentials for Ophthalmic Lens Work: Butterworth-Heinemann, 1983.

Non-programmable scientific calculator. The least complicated calculator that contains the keys 'sin,' 'cos,' and 'tan' will do.

STATEMENT OF STUDENTS WITH DISABILITIES:

Students who require academic accommodations due to any physical, psychological, or learning disability are encouraged to request assistance from a disability services counselor within the first two weeks of class. Likewise, students who potentially require emergency medical attention due to any chronic health condition are encouraged to disclose this information to a disability services counselor within the first two weeks of class. Counselors can be contacted by calling 919-536-7207, ext. 1413 or by visiting the Student Development Office in the Phail Wynn Jr. Student Services Center, room 1209.