

**OPH 282**  
**OPTICAL EXTERNSHIP I**

**COURSE DESCRIPTION:**

Prerequisites: OPH 112, OPH 142 and OPH 233

Corequisites: None

This course provides practical experience in assigned businesses, with emphasis on observation and practical application. Emphasis is on working conditions in different production settings and on time demands. Upon completion, students should be able to complete eyewear in a safe and timely manner to proper specifications and in collaboration with other employees. Course Hours Per Week: Clinical, 6. Semester Hours Credit, 2.

**COURSE OBJECTIVES:**

Upon completion of this course, the student will demonstrate basic competencies in each of the following areas:

- a. Demonstrate knowledge of ANSI standards
- b. Practice lab/OSHA safety procedures in the laboratory
- c. Laying-out and marking-up single vision and multifocal lenses for surfacing
- d. Generating spherical and spherocylindrical lenses
- e. Selecting and truing laps for spherical and spherocylindrical lenses
- f. Operating fining and polishing equipment
- g. Generating multifocal lenses
- h. Laying-out and marking-up prismatic lenses for surfacing
- i. Deblocking and inspection of lenses
- j. Troubleshooting surfacing tasks
- k. Care and maintenance of surfacing equipment
- l. Laying-out and marking-up of single-vision and multifocal lenses for edging
- m. Operating and maintaining edging equipment
- n. Computer use in edging and surfacing procedures
- o. Mounting and aligning lenses in frames
- p. Inspection and verification of finished eyewear
- q. Prescription interpretation for eyewear
- r. Facial measurements for eyewear
- s. Frame and lens selection for eyewear
- t. Adjustment and repair of eyeglasses
- u. Office and retail dispensary procedures for eyewear
- v. Evaluating consumer success
- w. Computer usage in dispensing
- x. Dispensing rules and regulations

**OUTLINE OF INSTRUCTION:**

- I. Lab safety/OSHA standards
  - A. Clothing safety
  - B. Eye safety
  - C. Safety procedures

- II. Laboratory rules and regulations
  - A. OSHA regulations
  - B. Hazardous waste
  - C. Record keeping
  - D. ANSI standards
- III. Generating single-vision lenses
  - A. Laying-out and marking-up single vision lenses
  - B. Blocking procedures for single vision lenses
  - C. Selection and trueing of laps for single vision lenses
  - D. Generating single vision lenses
- IV. Generating multifocal lenses
  - A. Laying-out and marking-up multifocal lenses
  - B. Blocking procedures for multifocal lenses
  - C. Selection and trueing of laps for multifocal lenses
  - D. Generating multifocal lenses
- V. Generating prismatic lenses
  - A. Laying-out and marking-up prismatic lenses
  - B. Blocking procedures for prismatic lenses
  - C. Selection of prism rings or prism wedges
  - D. Generating prismatic lenses
- VI. Fabricating prescription eyewear
  - A. Laying-out and marking-up single vision lenses for edging
  - B. Laying-out and marking-up multifocal lenses for edging
  - C. Making patterns for edging lenses
  - D. Operating edging machines
  - E. Use of the handstone in fabrication
  - F. Tempering lenses
  - G. Tinting lenses
  - H. Special lens treatments
  - I. Mounting and aligning lenses and frames
  - J. Final inspection of finished eyewear
- VII. Equipment maintenance and repair
  - A. Daily maintenance procedures for lab equipment
  - B. General maintenance of lab equipment
  - C. Basic equipment repairs
- VIII. Computer usage in the laboratory
  - A. Preparing job tickets
  - B. Computerized operation of equipment
- IX. Dispensing eyeglasses
  - A. Prescription analysis for eyewear
  - B. Facial measurements
  - C. Frame selection

- D. Lens selection
  - 1.) Single-vision lenses
  - 2.) Multifocal lenses
  - 3.) Absorptive lenses
- E. Frame adjustment and repair
- F. Special eyewear
  - 1.) High-plus patients
  - 2.) High-minus patients
  - 3.) Children
  - 4.) Low-vision patients
- X. Evaluating consumer success
  - A. Verification of eyewear
  - B. Consumer satisfaction
  - C. Troubleshooting consumer problems
- XI. Office and retail dispensary procedures
  - A. Patient management
  - B. Completion of paperwork
  - C. Computer usage
- XII. Dispensing rules and regulations
  - A. Knowledge and application of ANSI Standards
  - B. OSHA regulations
  - C. FDA regulations

## **REFERENCE TEXTBOOKS AND MATERIALS:**

Dispensing tool kit

Brooks. Essentials for Ophthalmic Lens Finishing. 2<sup>nd</sup> ed. Elsevier, 2003.

Brooks and Borish. Systems for Ophthalmic Dispensing. 2<sup>nd</sup> ed. Butterworth Heinemann, 1996.

## **STATEMENT FOR 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.