

**J. Sargeant Reynolds Community College
Course Content Summary**

Course Prefix and Number: OPT 150

Credits: 3

Course Title: Optical Laboratory Theory I

Course Description: Introduces the student to the terminology, instruments, lens, frames, and materials used in the surfacing and finishing of optical prescription eyewear. Focuses on the lensometry and fabrication of single vision eyewear and presents personal and environmental safety issues. Co-requisite: OPT 152. Lecture 3 hours per week.

General Course Purpose: This course is designed to provide students with a knowledge base of optical laboratory formula and concepts to enable them to function as effective opticians.

Course Prerequisites and Co-requisites:

Co-requisite: OPT 152

Student Learning Outcomes:

Upon completing the course, the student will be able to

- a. List and identify basic lens materials;
- b. Describe the surfacing/finishing process;
- c. Determine dioptric power;
- d. Identify and define basic ophthalmic nomenclature;
- e. Operate the focimeter and understand its application;
- f. Compute and describe basic finishing procedures;
- g. Lay out single vision lenses for finishing;
- h. Edge and insert lenses into optical frames;
- i. Understand and apply ANSI standards; and
- j. Demonstrate proper safety procedures in laboratory.

Major Topics to Be Included:

- a. Characteristics of lenses
- b. Surfacing and finishing
- c. Terminology
- d. Lensometry
- e. Lens materials
- f. Optical cross, transposition
- g. Finishing calculations
- h. Eyewear fabrication
- i. ANSI standards

Date Created/Updated (Month, Day, and Year): January 30, 2019