J. Sargeant Reynolds Community College
Course Content Summary

Course Prefix and Number: OPT 151   **Credits:** 3

Course Title: Optical Laboratory Theory II

Course Description: Covers making eyeglasses with advanced prescriptions and frames. Includes verification and neutralization techniques for single vision lens and bifocals, frame repair, accomplishing prescribed prism by decentration, verification and neutralization, semi-rimless glasses, and multifocal glasses. Prerequisite: OPT 150 and OPT 152 or equivalent. Co-requisite: OPT 153. Lecture 3 hours per week.

General Course Purpose: This course, a requirement of the Opticianry AAS degree and the Opticians Apprentice Career Studies Certificate, is designed to provide students with a knowledge base of optical laboratory theory to enable them to function as effective opticians.

Course Prerequisites and Co-requisites:
Prerequisite: OPT 150 and OPT 152 or equivalent
Co-requisite: OPT 153

Student Learning Outcomes:
Upon completing the course, the student will be able to
a. Explain characteristics of, and nomenclature for, multifocal, progressive, and occupational lenses;
b. Calculate horizontal and vertical layout decentration for multifocal and progressive lenses;
c. Understand the basic lensometry procedures to verify and neutralize multifocal and progressive lenses, including the application of ANSI standards;
d. Convert multifocal prescriptions to near and intermediate prescriptions;
e. Understand the effect of lens treatments such as anti-reflective, polarized, and color tinting;
f. Induce wanted prism into lenses and demonstrate prism verification;
g. Understand fabrication of slab-off lenses; and
h. Understand proper waste disposal procedures and applicable government regulations.

Major Topics to Be Included:
a. Multifocal finishing
b. Progressive lens finishing
c. Nylon cord mountings
d. Occupational lens finishing
e. Lens treatments
f. Inducing and verifying prism
g. Bicentric grinding
h. Waste disposal

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