J. Sargeant Reynolds Community College
Course Content Summary

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

Course Title: Optical Laboratory Theory II

Course Description (including lecture hours, lab hours, total contacts)
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. Lecture 3 hours per week.

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

Course Prerequisites/Corequisites
Prerequisite: OPT 150 and OPT 152, or equivalent
Corequisite: OPT 153

Course Objectives
Upon completing the course, the student will be able to:

a. Understanding the fundamentals of multi-focal lenses (including progressive addition lenses)
b. Applying the calculations necessary to finish multi-focal lenses
c. Performing the steps to verify multi-focal lenses
d. Learning the basic theory and nomenclature of progressive addition lenses
e. Researching progressive addition lens design
f. Examining color and the tinting process
g. Converting multifocal Rx's to near and intermediate Rx's
h. Learning all ANSI tolerances as they pertain to prescription dress eyewear
i. Applying prism theory in finished lenses
j. Examining bicentric grinding (aka slab-off)

Major Topics to be Included

a. Multifocal Finishing, Verification and Lensometry
b. Progressive Lens Finishing, Verification and Lensometry
c. Lens Tinting
d. Prescription Conversion
e. Frame Repairs
f. Prism Layout and Lensometry
g. Slab off or bi-centric grinding
h. Final Inspection/ ANSI

Effective Date of Course Content Summary (Month, Date Year): August 1, 2008