J. Sargeant Reynolds Community College
Course Content Summary

Course Prefix and Number: OPT 122            Credits: 3

Course Title: Optical Theory II

Course Description: Explores the development of multifocal lenses, application of multifocal lenses, survey of current ophthalmic lens, the properties of spherocylinder lenses, and an in-depth analysis of the optics of ophthalmic prisms, which includes prism notation, vertical imbalance, and anisometropia. Prerequisite: OPT 121 or equivalent. Lecture 3 hours per week.

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

Course Prerequisites and Co-requisites:
Prerequisite: OPT 121 or equivalent

Student Learning Outcomes:
Upon completing the course, the student will be able to
a. Calculate vertical imbalance and choose appropriate methods for correcting it;
b. Explain, calculate, and notate wanted and unwanted prism power and direction;
c. Determine lens power in any meridian;
d. Calculate multifocal image jump based upon multifocal types; and
e. Calculate the amount and direction of resultant prism.

Major Topics to Be Included:
a. Basic Prism
b. Oblique Meridians
c. Prentice Rule
d. Binocular Prism
e. Multifocals and Image Jump
f. Anisometropia and Vertical Imbalance
g. Bicentric Grinding/Slab off
h. Prism Notation
i. Resultant and Resolving Prism

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