

**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 sphero-cylinder 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

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