

**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