

Course Description

OPT 2375 | Refractometry Lecture | 1 credit

This course focuses on the principles of refractometry. Topics include optics of ophthalmic lenses, and optics of the human eyes. The study of refractive problems and ways to theoretically correct them. Its “tools of the trade” and ways to use them are introduced.

Course Competencies

Competency 1:

The student will demonstrate an understanding of refraction by:

- a) Discussing the basic concepts of Refractometry.
- b) Discussing the use of retinoscopy as a tool on objective Refractometry.
- c) Describing refinement methods used in subjective Refractometry.
- d) Describing methods and determining factors employed when coping with a patient with refractive errors.

Learning Outcomes

- Communicate effectively using listening, speaking, reading and writing skills.

COMPETENCY 2:

The student will demonstrate an understanding of light vergence and its affect on vision by:

- a) Discussing the vergence concept of light.
- b) Describing the effect of optical power upon vergence.
- c) Discussing the object-image relationships.
- d) Describing Ophthalmic Lenses.
- e) Using the optical cross to put an RX on and to take the RX off the cross.
- f) Describing optical prisms and their optical function.

Learning Outcomes

- Communicate effectively using listening, speaking, reading and writing skills.

COMPETENCY 3:

The student will interpret the written prescription and its affect on vision by:

- a) Analyzing the prescription.
- b) Describing the use of the lensometer.
- c) Performing flat transposition from or to plus cylinder, minus cylinder and cross cylinder.
- d) Describing the procedure for hand neutralization.
- e) Discussing ophthalmic lenses as to: vertex powers surface powers, the effect of index and thickness, multifocal.

- f) Discussing the interpupillary distance and decentration. Discuss the effects of vertex distance.

Learning Outcomes

- Communicate effectively using listening, speaking, reading and writing skills.