



# Broward Community College

## Course Outline

STATUS: A

COMMON COURSE NUMBER: OPT 2879

COURSE TITLE: REFRACTOMETRY PRACTICUM

CREDIT HOURS: 2

### CONTACT HOURS BREAKDOWN:

Lecture / Discussion	<u>0</u>
Lab	<u>96</u>
Other (Clinic)	<u>0</u>

Contact Hours/ Week: 6

### CATALOG COURSE DESCRIPTION

Laboratory for OPT 2375: Practical procedures used in determining the powers of corrective lenses in relation to a patient's refractive error. The student will learn to use the Phoropter, retinoscope, and automated refraction instruments in determining the patient's subjective and objective refraction. Problems associated with the change in refractive powers will be demonstrated.

Prerequisite: OPT 1110, OPT 1110L, OPT 1210 and OPT 1330

Co-requisite: OPT 1150, OPT 1150L and OPT 2375

### UNIT TITLES:

- 1 **Visual Acuity Testing (Review)**
- 2 **Streak Retinoscopy**
- 3 **Manual And Automated Phoropter**
- 4 **Subjective Testing**
- 5 **Binocular Balance**
- 6 **"Side-Trips"**
- 7 **Near Vision Testing**
- 8 **Functional Testing**
- 9 **Refractive Complaints**
- 10 **Advanced Refractive Problems**
- 11 **Case Studies And Presentation**

LAST REVIEW Academic Year 2004-2005 NEXT REVIEW Academic Year 2009-2010

*Interim Revision Dates:*

**COURSE OVERVIEW:**

Upon successful completion of this course, the students should be able to:  
**UNITS**

**UNIT 1: VISUAL ACUITY TESTING (REVIEW)**

General Outcomes:

- 1 The student will demonstrate the procedures for taking a visual acuity on a normal patient.

**SPECIFIC LEARNING OBJECTIVES:**

To successfully complete this module the student will:

- 1.1 Demonstrate the methods for performing standard Snellen chart acuity testing at both near and far
- 1.2 Compare and contrast three (3) other commonly used acuity testing charts.
- 1.3 Record the standard Snellen notation

**UNIT 2: STREAK RETINOSCOPY**

General Outcomes:

- 2 The student will be able perform an objective refraction.

**SPECIFIC LEARNING OBJECTIVES:**

To successfully complete this module the student will:

- 2.1 Demonstrate how to use a retinoscope
- 2.2 Perform static and dynamic retinoscopy
- 2.3 Use a “working lens”
- 2.4 Neutralize the refractive error

**UNIT 3: MANUAL AND AUTOMATED PHOROPTER**

General Outcomes:

- 3 The student will be able to demonstrate knowledge of all of the parts and controls of the modern phoropter. Use of an automated phoropter will also be demonstrated.

**SPECIFIC LEARNING OBJECTIVES:**

To successfully complete this module the student will:

- 3.1 Demonstrate the parts and controls of the phoropter
- 3.2 Properly position of the patient
- 3.3 Use the phoropter in vision testing

#### **UNIT 4: SUBJECTIVE TESTING**

General Outcomes:

- 4 The student will gain experience in the process of subjectively testing a patients vision and using the phoropter to improve visual acuity.

#### **SPECIFIC LEARNING OBJECTIVES:**

To successfully complete this module the student will:

- 4.1 Determine maximum plus power to achieve maximum visual acuity
- 4.2 Perform three (3) end-points of the initial refraction
- 4.3 Determine the amount of astigmatism by use of the Jackson Cross-Cylinder test
- 4.4 Record refraction results

#### **UNIT 5: BINOCULAR BALANCE**

General Outcomes:

- 5 The student will perform the steps and the desired outcomes for binocular balance.

#### **SPECIFIC LEARNING OBJECTIVES:**

To successfully complete this module the student will:

- 5.1 Demonstrate the steps for binocular balance testing
- 5.2 Determine if an end-point is reliable
- 5.3 Describe the procedure when a patient is unresponsive to binocular balance

#### **UNIT 6: "SIDE-TRIPS**

General Outcomes:

- 6 The student will demonstrate refractive "side-trips"

#### **SPECIFIC LEARNING OBJECTIVES:**

To successfully complete this module the student will:

- 6.1 Use the clock chart in determining astigmatism
- 6.2 Demonstrate the Jackson Cross-Cylinder method for finding uncorrected astigmatism
- 6.3 Demonstrate the method and usage of the prism-dissociated duochrome test
- 6.4 Perform the sighting dominance check
- 6.5 Utilize the procedure used for trial frame refractions
- 6.6 Determine when a cycloplegic refraction is needed

## **UNIT 7: NEAR VISION TESTING**

General Outcomes:

- 7 The student will gain experience in the procedure for testing the reading acuity of a patient. Emphasis will be placed on using the phoropter for best near visual acuity.

### SPECIFIC LEARNING OBJECTIVES:

To successfully complete this module the student will:

- 7.1 Demonstrate several methods of determining the near prescription for a presbyope
- 7.2 Perform dynamic cross-cylinder testing
- 7.3 Use refractive charts based on patients' age
- 7.4 Define "split add" and discuss when it is used
- 7.5 Determine the need for a trifocal

## **UNIT 8: FUNCTIONAL TESTING**

General Outcomes:

- 8 The student will be able to demonstrate the influence of accommodation and vergence on the refractive state and prescription.

### SPECIFIC LEARNING OBJECTIVES:

To successfully complete this module the student will:

- 8.1 Demonstrate distance lateral and vertical phoria by Von Graefe technique
- 8.2 Demonstrate the methods for testing horizontal and vertical vergence at distance and near
- 8.3 List the steps for testing phoria and tropia

## **UNIT 9: REFRACTIVE COMPLAINTS**

General Outcomes:

- 9 The student shall have an utilize the diagnostic process in dealing with patients that have a complaint with their prescription.

### SPECIFIC LEARNING OBJECTIVES:

To successfully complete this module the student will:

- 9.1 Explain how to pin point the problem
- 9.2 Determine if the problem is prescription or fitting oriented
- 9.3 Discuss how base cure differences can effect vision and comfort
- 9.4 Describe prismatic effect of a prescription how induced prism can cause problems
- 9.5 Describe the effect of over plusing the near prescription

- 9.6 Explain the various types of problems associated with bifocals
- 9.7 Compare frame problems in relation to fit and to cosmetic appearance
- 9.8 Determine if the visual problem is functional or physiological

#### **UNIT 10: ADVANCED REFRACTIVE PROBLEMS**

General Outcomes:

- 10 The student will be able to deal with special problems that may confront the refractionist.

##### SPECIFIC LEARNING OBJECTIVES:

To successfully complete this module the student will:

- 10.1 Demonstrate how the control of accommodation effects the refraction
- 10.2 Explain the procedure for a post-cataract patient
- 10.3 Perform a low vision refractive examination

#### **UNIT 11: CASE STUDIES AND PRESENTATION**

General Outcomes:

- 11 The student will be perform advance refractions and present case studies to other professionals and students

##### SPECIFIC LEARNING OBJECTIVES:

To successfully complete this module the student will:

- 11.1 Demonstrate the ability to communicate with other professionals in health care
- 11.2 Perform prescription modification on a variety of patients under direct supervision of an instructor
- 11.3 Utilize proper procedures in presenting case studies and findings to other students