

BROWARD COLLEGE COURSE OUTLINE

LAST REVIEW: 2010-2011

NEXT REVIEW: 2015

STATUS: A

COURSE TITLE: OPHTHALMIC LENSES LAB

COMMON COURSE NUMBER: OPT 1150L

CREDIT HOURS: 2

CONTACT HOUR BREAKDOWN

CLOCK HOURS: 64

Lecture:

Lab: **64**

Clinic:

Other:

PREREQUISITE(S): OPT1110, OPT 1110L, OPT 1210

COREQUISITE(S):

PRE/COREQUISITE(S): OPT 1150

COURSE DESCRIPTION:

This course provides the opportunity for students to gain hands on experience in the accurate positioning of the optical centers and selected multifocal addition designs. ANSI and F.D.A. standards, prescription ordering and verification procedures will be applied to patient jobs. Emphasis will be placed on the use of the manual and automated Lensometer. Fitting of low vision devices and occupational specialty lenses will be discussed.

UNIT TITLES:

1. FRAME TYPES AND PARTS
2. FRAME MEASUREMENTS AND MARKINGS
3. MEASURING THE INTERPUPILLARY DISTANCE
4. OPTICAL CENTER PLACEMENT AND MULTIFOCAL HEIGHT
5. LENSOMETER -- SINGLE VISION SPHERICAL LENSES (REVIEW)
6. LENSOMETER -- SINGLE VISION SPHEROCYLINDER LENSES (REVIEW)
7. LENSOMETER -- LINED MULTIFOCAL LENSES
8. LENSOMETER -- PROGRESSIVE ADDITION LENSES
9. LENSOMETER -- SPECIALTY LENSES
10. AUTOMATED LENSOMETRY
11. APPLYING ANSI AND F.D.A. STANDARDS
12. LOW VISION AND SPECIALTY DEVICES

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UNIT 1: FRAME TYPES AND PARTS

General Outcome:

1.0 The student will gain a working knowledge of the different types of frames and the correct name for the specific parts.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 1.1 Diagram and label the parts of a frame.
- 1.2 List the classifications of frames.
- 1.3 Demonstrate knowledge of frame materials.
- 1.4 Demonstrate knowledge of frame construction.
- 1.5 List the different types of temples.
- 1.6 List the different types of bridges.

UNIT 2: FRAME MEASUREMENTS AND MARKINGS

General Outcome:

2.0 The student will gain a working knowledge of how to measure frames and what markings are needed for reordering.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 2.1 Demonstrate knowledge of the Datum system.
- 2.2 Demonstrate knowledge of the Boxing system.
- 2.3 Compare and contrast the Datum and Boxing system.
- 2.4 Differentiate between frame markings and actual measurements.

UNIT 3: MEASURING THE INTERPUPILLARY DISTANCE

General Outcome:

3.0 The student will demonstrate the ability to measure the distance between a patient's eyes.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

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UNIT 3: MEASURING THE INTERPUPILLARY DISTANCE continued

- 3.1 Define anatomical interpupillary distance.
- 3.2 Demonstrate the use of a “P.D. ruler” in taking a distance P.D.
- 3.3 Demonstrate the use of a “P.D. ruler” in taking a near P.D.
- 3.4 Demonstrate the use of a Corneal Reflection Pupillometer.
- 3.5 Differentiate between near and distance P.D.
- 3.6 Differentiate between monocular and binocular P.D.

UNIT 4: OPTICAL CENTER PLACEMENT AND MULTI-FOCAL HEIGHT

General Outcome:

4.0 The student will demonstrate the ability to correctly measure a patient for optical center and bifocal placement.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 4.1 Describe how a frame should be positioned before optical center measurements are made.
- 4.2 Differentiate between correct bridge size and correct eyewire size.
- 4.3 Determine horizontal optical center placement.
- 4.4 Determine vertical optical center placement.
- 4.5 Compensate for vertex distance in determining the effective power of a lens.
- 4.6 Differentiate between the lower limbus and the lower lid margin method of determining multi-focal height placement.
- 4.7 Differentiate between subjective and objective determination of multi-focal height placement.
- 4.8 Measure for trifocal height placement.

UNIT 5: LENSOMETER -- SINGLE VISION SPHERICAL LENSES (REVIEW)

General Outcome:

5.0 The student will demonstrate the ability to determine the power of single vision spherical lenses.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

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- 5.1 List the parts of a standard manual lensometer.
- 5.2 Explain each part of the standard manual lensometer and how it is used.

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UNIT 5: LENSOMETER -- SINGLE VISION SPHERICAL LENSES (REVIEW) continued

- 5.3 List the steps in neutralizing a single vision spherical lens.
- 5.4 Neutralize single vision spherical plus lenses.
- 5.5 Neutralize single vision spherical minus lenses.
- 5.6 Properly record neutralization of single vision spherical lenses.

UNIT 6: LENSOMETER -- SINGLE VISION SPHEROCYLINDER LENSES (REVIEW)

General Outcome:

6.0 The student will demonstrate the ability to determine the power of single vision spherocylinder lenses.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 6.1 List the steps in neutralizing a single vision spherocylinder lens.
- 6.2 Neutralize single vision spherocylinder plus lenses.
- 6.3 Neutralize single vision spherocylinder minus lenses.
- 6.4 Properly record neutralization of single vision spherocylinder lenses in both plus and minus cylinder forms.

UNIT 7: LENSOMETER -- LINED MULTI-FOCAL LENSES

General Outcome:

7.0 The student will demonstrate the ability to determine the power of multi-focal spherocylinder lenses.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 7.1 List the steps in neutralizing a multi-focal spherocylinder lens.
- 7.2 Neutralize multi-focal spherocylinder plus lenses.
- 7.3 Neutralize multi-focal spherocylinder minus lenses.
- 7.4 Properly record neutralization of multi-focal spherocylinder lenses in both plus and minus cylinder forms.

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UNIT 8: LENSOMETER -- PROGRESSIVE ADDITION LENSES

General Outcome:

8.0 The student will demonstrate the ability to determine the power of progressive addition multi-focal lenses.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 8.1 List the steps in neutralizing a progressive addition multi-focal spherocylinder lens.
- 8.2 Neutralize progressive addition multi-focal spherocylinder plus lenses.
- 8.3 Neutralize progressive addition multi-focal spherocylinder minus lenses.
- 8.4 Properly record neutralization of progressive addition multi-focal spherocylinder lenses in both plus and minus cylinder forms.

UNIT 9: LENSOMETER -- SPECIALTY LENSES

General Outcome:

9.0 The student will demonstrate the ability to determine the power of specialty multi-focal lenses.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 9.1 List the steps in neutralizing a specialty multi-focal spherocylinder lens.
- 9.2 Neutralize specialty multi-focal spherocylinder plus lenses.
- 9.3 Neutralize specialty multi-focal spherocylinder minus lenses.
- 9.4 Properly record neutralization of specialty multi-focal spherocylinder lenses in both plus and minus cylinder forms.

UNIT 10: AUTOMATED LENSOMETRY

General Outcome:

10.0 The student will demonstrate the ability to determine the power of a lens using an automated lensometer.

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UNIT 10: AUTOMATED LENSOMETRY continued

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 10.1 List the steps in neutralizing a lens using an automated lensometer.
- 10.2 Neutralize plus lenses using an automated lensometer.
- 10.3 Neutralize minus lenses using an automated lensometer.
- 10.4 Properly record neutralization of lenses in both plus and minus cylinder forms.

UNIT 11: APPLYING ANSI AND F.D.A. STANDARDS

General Outcome:

11.0 The student will demonstrate the ability to apply ANSI and FDA standards to prescription eyewear.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 11.1 Differentiate between a standard and a law.
- 11.2 List the ANSI standards for dress and safety eyewear.
- 11.3 Discuss the FDA policy on safety and glass.
- 11.4 Verify that a prescription is within ANSI and FDA standards.

UNIT 12: LOW VISION AND SPECIALTY DEVICES

General Outcome:

12.0 The student will demonstrate the ability to fit low vision aids to patients.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 12.1 Define low vision.
- 12.2 Describe the types of low vision aids available.
- 12.3 Demonstrate knowledge on the fitting criteria for low vision aids.
- 12.4 Define non-optical low vision aids.
- 12.5 Demonstrate knowledge on the dispensing of non-optical.