

BROWARD COLLEGE COURSE OUTLINE

LAST REVIEW: 2011-2012

NEXT REVIEW: 2015-2016

STATUS: A

COURSE TITLE: EYEWEAR FABRICATION LAB II

COMMON COURSE NUMBER: OPT 2421L

CREDIT HOURS: 2

CONTACT HOUR BREAKDOWN

CLOCK HOURS:

Lecture:

Lab: **96**

Clinic:

Other:

PREREQUISITE(S): OPT2420 OPT2420L

COREQUISITE(S):

PRE/COREQUISITE(S): OPT 2421

COURSE DESCRIPTION:

Laboratory for OPT2421. Students will fabricate eyewear for the patients of the Vision Care Clinic using advanced techniques in measurement, fabrication and verification of single vision and multifocal lenses. Students will be exposed to advanced techniques in the operation and maintenance of manual and computerized equipment.

UNIT TITLES

1. LENSOMETER FOR THE STATE BOARD
2. VERTEX CHANGE
3. CALIPERING
4. LENS CLOCK
5. ANSI STANDARDS
6. BENCH ALIGNMENT
7. SPOTTING LENSES
8. CENTRATION OF SINGLE VISION LENS
9. CENTRATION OF BIFOCAL VISION LENS
10. BLOCKING OF FINISHED LENSES
11. LENS SHAPE INFORMATION
12. EDGING
13. TINTING

BROWARD COLLEGE COURSE OUTLINE

OPT 2421L

Unit 1: LENSOMETER FOR THE STATE BOARD

General Outcome:

1.0 The student will demonstrate competency using the lensometer, applying the standards used in the state board examination

Specific Measurable Learning Outcomes:

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

- 1.1 List the major systems of the Lensometer.
- 1.2 Demonstrate the functions of each system.
- 1.3 Demonstrate the steps in neutralizing a single vision lens.
- 1.4 Demonstrate the steps in neutralizing a bifocal lens.
- 1.5 Demonstrate the steps in neutralizing a progressive lens.
- 1.6 Demonstrate the steps in neutralizing prism.
- 1.7 Demonstrate four (4) refractive errors and how they are corrected.

Unit 2 VERTEX DISTANCE CHANGE

General Outcome:

2.0 The student will be able to Demonstrate the effect vertex distance changes have on a prescription.

Specific Measurable Learning Outcomes:

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

- 2.1 Calculate effective power of a lens.
- 2.2 Demonstrate how effective power affects vision.
- 2.3 Calculate replacement power of a lens.
- 2.4 Show how replacement power affects vision.

Unit 3&4 CALIPERING& LENS CLOCK

General Outcome:

3.0 and 4.0 The student will be able to identify, discuss and demonstrate the process of “clocking” and callipering a lens.

Specific Measurable Learning Outcomes:

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

- 3.1 Discuss the importance of callipering every lens.
- 3.2 Describe the use of the manual and automatic caliper.
- 3.3 Describe the use of the lens clock.

BROWARD COLLEGE COURSE OUTLINE

OPT 2421L

Unit 5 ANSI/STATE BOARD STANDARDS

General Outcome:

5.0 The student will be able to discuss the American National Standards Institute (ANSI) regulations regarding the manufacture and sale of ophthalmic devices.

Specific Measurable Learning Outcomes:

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

- 5.1 Differentiate between (ANSI) standard and the State board requirements.
- 5.2 List the ANSI standards for dress and safety eyewear.
- 5.3 List the Florida board standards for dress and safety eyewear.

Unit 6 BENCH ALIGNMENT

General Outcome:

6.0 The student will demonstrate a working knowledge of the procedure used in “truing” or placing the frame in a standard alignment.

Specific Measurable Learning Outcomes:

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

- 6.1 Demonstrate “truing” or standard alignment.
- 6.2 Correctly heat and reshape a frame.
- 6.3 Align the bridge of a plastic frame.
- 6.4 Place a plastic frame in correct “four-point” touch.
- 6.5 Align of the temples in a plastic frame.
- 6.6 Correct temple spread problems for a plastic frame.
- 6.7 Align temple-fold angle of a plastic frame.
- 6.8 Align the bridge of a metal frame.
- 6.9 Place a metal frame in proper “four-point” touch.
- 6.10 Align the temples of a metal frame.
- 6.11 Correct temple spread problems for a metal frame.
- 6.12 Align temple-fold angle of a metal frame..

Unit 7 SPOTTING LENSES

General Outcome:

7.0 The student will be able to show the procedures for spotting, verification and checking for optical quality of a finished lens.

BROWARD COLLEGE COURSE OUTLINE

OPT 2421L

Unit 7 SPOTTING LENSES continued

Specific Measurable Learning Outcomes:

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

- 7.1 Demonstrate how to spot and verify the power of a lens.
- 7.2 Demonstrate how to spot a lens with prism.
- 7.3 Identify the markings of a progressive addition lenses.
- 7.4 Neutralize a progressive addition lenses.
- 7.5 Spot a progressive addition lenses for edging.

Unit 8 CENTRATION OF SINGLE VISION LENS

General Outcome:

8.0 The student will be able to edge a single vision lens.

Specific Measurable Learning Outcomes:

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

- 8.1 Demonstrate the purpose of centering.
- 8.2 Determine if a lens blank is large enough.
- 8.3 Demonstrate how to push the P.D.
- 8.4 Calculate decent ration.
- 8.5 Calculate minimum blank size.
- 8.6 Measure the effective diameter.

Unit 9 CENTRATION OF BIFOCAL VISION LENS

General Outcome:

9.0 The student will be able to cut and edge a bifocal lens.

Specific Measurable Learning Outcomes:

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

- 9.1 Demonstrate the purpose of centering.
- 9.2 Determine if a lens blank is large enough.
- 9.3 Demonstrate how to measure seg hight.
- 9.4 Calculate decent ration.
- 9.5 Calculate seg inset.
- 9.6 Calculate total inset.

BROWARD COLLEGE COURSE OUTLINE

OPT 2421L

Unit 10 BLOCKING OF FINISHED LENSES

General Outcome:

10.0 The student will be able to compare and contrast various methods for blocking a finished lens in preparation for the edging process.

Specific Measurable Learning Outcomes:

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

- 10.1 Describe the pressure blocking process.
- 10.2 Describe suction blocking.
- 10.3 Discuss how to choose the correct block for the job.

Unit 11 LENS SHAPE INFORMATION

General Outcome:

11.0 The student will be able to make a lens pattern using the pattern maker.

Specific Measurable Learning Outcomes:

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

- 11.1 Determine pattern measurements.
- 11.2 Demonstrate pattern making by hand.
- 11.3 Compare various automatic pattern makers.
- 11.4 Demonstrate using pattern- less edging systems.

Unit 12 EDGING

General Outcome:

12.0 The student shall: The student will be able to use different lens edging systems and procedures to make eyeglasses.

Specific Measurable Learning Outcomes:

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

- 12.1 Demonstrate the edging process.
- 12.2 Demonstrate how to chuck a lens.
- 12.3 Describe bevel selection and placement.

BROWARD COLLEGE COURSE OUTLINE

OPT 2421L

Unit 12 EDGING continued

- 12.4 Differentiate between various types of lens materials and how this changes the edging process.
- 12.5 Demonstrate a safety bevel.
- 12.6 Demonstrate the importance of a safety bevel.

Unit 13 TINTING

General Outcome:

13.0 The student will apply UV coating and tints to plastic lenses.

Specific Measurable Learning Outcomes:

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

- 13.1 Demonstrate how to apply UV-400 coatings.
- 13.2 verify UV-400 coatings.
- 13.3 Show how to tint a finish lens.
- 13.4 Mix and match tints on glasses.