

BROWARD COLLEGE COURSE OUTLINE

LAST REVIEW: 2011-2012

NEXT REVIEW: 2015-2016

STATUS: A

COURSE TITLE: EYEWEAR FABRICATION I LAB

COMMON COURSE NUMBER: OPT 2420L

CREDIT HOURS: 2

CONTACT HOUR BREAKDOWN

CLOCK HOURS:

Lecture:

Lab: **64**

Clinic:

Other:

PREREQUISITE(S): OPT 2500L, OPT 2879

COREQUISITE(S):

PRE or COREQUISITE(S): OPT 2420

COURSE DESCRIPTION:

In this laboratory course students will gain practical experience in ophthalmic surfacing and finishing procedures. Students will fabricate single vision and multifocal lenses; use lensometers and lens clocks; operate project-o-markers for lens layout; select or fabricate frame patterns; and utilize several systems for surfacing and edging lenses for ophthalmic frames.

UNIT TITLES

1. SELECTING THE LENS
2. FIGURING THE JOB TICKET
3. LENS MARK-UP
4. PRECOATING A LENS
5. BLOCKING
6. GENERATING
7. CALIPERING
8. FINING AND POLISHING
9. DEBLOCKING AND CLEANING
10. SPOTTING LENSES
11. CENTRATION OF SINGLE VISION LENSES
12. BLOCKING OF FINISHED LENSES
13. LENS SHAPE FORMATION
14. EDGING
15. DEBLOCKING/ FINAL INSPECTION
16. PATIENT JOBS

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Unit 1 SELECTING THE LENS

General Outcome

1.0 The student will be able to identify and select the proper lens to fill any given prescription.

Specific Measurable Learning Outcomes:

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

- 1.1 Compare finished to semi-finished lenses.
- 1.2 Demonstrate how to select a base curve.

Unit 2 FIGURING THE JOB TICKET

General Outcome

2.0 The student will be able to identify all of the information needed for, and all of the information contained on the standard job ticket.

Specific Measurable Learning Outcomes:

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

- 2.1 Use the computer to input a job ticket.
- 2.2 Manually determine the curves and thickness of a given lens.

Unit 3 LENS MARK-UP

General Outcome

3.0 The student will be able to edit the computer slip and mark a lens for surfacing or edging.

Specific Measurable Learning Outcomes:

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

- 3.1 Demonstrate the procedures to determine the optical quality of a lens before surfacing or edging.
- 3.2 Perform the different types of markings needed on a lens.

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Unit 4 PRECOATING A LENS

General Outcome

4.0 The student will be able to demonstrate the procedure in pre coating a lens before surfacing.

Specific Measurable Learning Outcomes:

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

- 4.1 Demonstrate the functions of pre coating.

Unit 5 BLOCKING

General Outcome

5.0 The student will be able to identify and compare the procedures used to block a plastic, polycarbonate, and glass lens for surfacing and edging.

Specific Measurable Learning Outcomes:

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

- 5.1 Use the proper temperatures in blocking different lenses.
- 5.2 Compare and contrast the procedure for blocking lenses of different materials.

Unit 6 GENERATING

General Outcome

6.0 The student will be able to describe the procedure for generating a prescription into a lens.

Specific Measurable Learning Outcomes:

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

- 6.1 Demonstrate the variables found in generating a plastic lens.
- 6.2 Demonstrate the procedure for chucking and beveling plastic lenses.
- 6.3 Compare and contrast the methods for generating plastic and glass.

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Unit 7 CALIPERING

General Outcome

7.0 The student will be able to identify and discuss the process of calipering a lens.

Specific Measurable Learning Outcomes:

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

- 7.1 Demonstrate the use of the manual and automatic caliper.
- 7.2 Use the mathematical formula used in determining lens thickness and relative power.

Unit 8 FINING AND POLISHING

General Outcome

8.0 The student will be able to demonstrate the procedures for creating a smooth transparent optical surface on a lens that has been surfaced.

Specific Measurable Learning Outcomes:

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

- 8.1 Demonstrate several fining systems.
- 8.2 Demonstrate the set-up of the fining machines.
- 8.3 Compare aluminum and plastic tools.
- 8.4 Differentiate between glass and plastic fining methods.
- 8.5 Demonstrate the procedures for polishing lenses.
- 8.6 Demonstrate the variables encountered in the polishing.

Unit 9 DEBLOCKING AND CLEANING

General Outcome

9.0 The student will be able to demonstrate the procedure for deblocking, cleaning, and preparing a lens for the next step in the fabrication process

Specific Measurable Learning Outcomes:

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

- 9.1 Demonstrate how to safely deblock a lens.
- 9.2 Demonstrate the process for cleaning and caring for the blocks.

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Unit 10 SPOTTING LENSES

General Outcome

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

Specific Measurable Learning Outcomes:

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

- 10.1 Spot and verify the power of a lens.
- 10.2 Demonstrate how to spot a lens with prism.
- 10.3 Discuss the markings of a progressive addition lens.

Unit 11 CENTRATION OF SINGLE VISION LENSES

General Outcome

11.0 The student will be able to demonstrate the process of edging a single vision lens.

Specific Measurable Learning Outcomes:

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

- 11.1 Discuss the purpose of centering.
- 11.2 Demonstrate the mechanics of lens centering.
- 11.3 Determine if a lens blank is large enough.
- 11.4 Discuss how to push the "P.D."

Unit 12 BLOCKING OF FINISHED LENSES

General Outcome

12.0 The student will be able to compare and contrast various methods for holding a finished lens during the edging process.

Specific Measurable Learning Outcomes:

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

- 12.1 Demonstrate pressure blocking.
- 12.2 Describe suction blocking.
- 12.3 Describe metal alloy blocking.
- 12.4 Demonstrate adhesive pad blocking.
- 12.5 Compare the blocking methods of several different types of materials.

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Unit 13 **LENS SHAPE FORMATION**

General Outcome

13.0 The student will be able to make a lens pattern.

Specific Measurable Learning Outcomes:

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

- 13.1 Discuss pattern measurements and terminology.
- 13.2 Demonstrate pattern making by hand.
- 13.3 Compare the various automatic pattern makers.
- 13.4 Use a pattern less edging systems.

Unit 14 **EDGING& DEBLOCKING**

General Outcome

14.0 The student will be able to identify and compare different edging systems and procedures and be will be able to identify and compare different de blocking procedures.

Specific Measurable Learning Outcomes:

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

- 14.1 Demonstrate the edging process.
- 14.2 Demonstrate how to chuck a lens.
- 14.3 Demonstrate bevel selection and placement.
- 14.4 Differentiate between various types of lens materials and how they change the edging process.
- 14.5 Describe the de-blocking of a lens blocked with metal alloy.
- 14.6 De-block a lens blocked with adhesive pads.

Unit 15 **FINAL INSPECTION**

General Outcome

15.0 The student will be able to list the steps in the final inspection process.

Specific Measurable Learning Outcomes:

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

- 15.1 Properly final inspect a lens.
- 15.2 Place the completed eyeglasses in standard alignment.
- 15.2 Discuss the ANSI standards as they apply to prescription glasses.

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Unit 16 **PATIENT JOBS**

General Outcome

16.0 The student will successfully complete a minimum of eight (8) patient jobs to get credit for this course.

Specific Measurable Learning Outcomes:

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

- 16.1 Demonstrate competency in completing patient jobs according to ANSI standards