

BROWARD COLLEGE COURSE OUTLINE

LAST REVIEW: 2009-2010

NEXT REVIEW: 2014-2015

STATUS: A

COURSE TITLE: EYEWEAR FABRICATION 1

COMMON COURSE NUMBER: OPT 2420

CREDIT HOURS: 1

CONTACT HOUR BREAKDOWN

CLOCK HOURS:

Lecture: **16**

Lab:

Clinic:

Other:

PREREQUISITE(S): OPT 2500, OPT 2800L

COREQUISITE(S): OPT 2420L

PRE/COREQUISITE(S):

COURSE DESCRIPTION:

This course presents a review of the theory of ophthalmic surfacing and finishing procedures. Students acquire knowledge to arrange 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 BLOCING
- 5 CALIPERING
- 6 DEBLOCKING AND CLEANING
- 7 SPOTTING LENSES
- 8 CENTRATION OF SINGLE VISION LENSES
- 9 BLOCKING OF FINISHED LENSES
- 10 LENS SHAPE FORMATION
- 11 EDGING
- 12 DEBLOCKING
- 13 FINAL INSPECTION

OPT 2420

Unit 1 SELECTING THE LENS

General Outcome:

1.0 The student shall: 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 Determine how to select a base curve.

Unit 2 FIGURING THE JOB TICKET

General Outcome:

2.0 The student shall: 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 Understand the proper computer input for 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 shall: be able to edit the computer slip and mark a lens for edging.

Specific Measurable Learning Outcomes:

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

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

OPT 2420

Unit 4 BLOCKING

General Outcome:

4.0 The student shall: be able to identify and compare the procedures used to block a plastic, polycarbonate, and glass lens for edging.

Specific Measurable Learning Outcomes:

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

- 4.1 Discuss and choose the proper blocks for blocking different lenses.
- 4.2 Compare and contrast the procedure for blocking lenses of different materials.

Unit 5 CALLIPERING

General Outcome:

5.0 The student shall: be able to identify and discuss the process of callipering a lens.

Specific Measurable Learning Outcomes:

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

- 5.1 Discuss the importance of calipering every lens.
- 5.2 Describe the use of the manual and automatic caliper.
- 5.3 Discuss the mathematical formula used in determining lens thickness and relative power.

Unit 6 DEBLOCKING AND CLEANING

General Outcome:

6.0 The student shall: be able to describe 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:

- 6.1 Discuss how to safely deblock a lens.
- 6.2 Describe the process for cleaning and caring for the blocks.

OPT 2420:

Unit 7 SPOTTING LENSES

General Outcome:

7.0 The student shall: 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:

- 7.1 Describe how to spot and verify the power of a lens.
- 7.2 Describe how to spot a lens with prism.
- 7.3 Discuss the markings of a progressive addition lens.

Unit 8 CENTRATION OF SINGLE VISION LENSES

General Outcome:

8.0 The student shall: be able to describe the process of edging a single vision lens.

Specific Measurable Learning Outcomes:

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

- 8.1 Discuss the purpose of centering.
- 8.2 Describe the mechanics of lens centering.
- 8.3 Determine if a lens blank is large enough.
- 8.4 Discuss how to push the "P.D."

Unit 9 BLOCKING OF FINISHED LENSES

General Outcome:

9.0 The student shall: be able to compare and contrast various method 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:

- 9.1 Describe pressure blocking.
- 9.2 Describe suction blocking.
- 9.3 Describe metal alloy blocking.
- 9.3 Describe adhesive pad blocking.
- 9.4 Compare the blocking methods of several different types of materials.

OPT 2420:

Unit 10 LENS SHAPE FORMATION

General Outcome:

10.0 The student shall: The student will be able to discuss how to make a lens pattern.

Specific Measurable Learning Outcomes:

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

- 10.1 Discuss pattern measurements and terminology.
- 10.2 Discuss pattern making by hand.
- 10.3 Compare the various automatic pattern makers.
- 10.4 Discuss patternless edging systems.

Unit 11 LENS EDGING

General Outcome:

11.0 The student shall: be able to identify and compare different edging systems and procedures.

Specific Measurable Learning Outcomes:

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

- 11.1 Discuss the edging process.
- 11.2 Describe how to chuck a lens.
- 11.3 Describe bevel selection and placement.
- 11.4 Differentiate between various type of lens materials and how they change the edging process.

Unit 12 LENS DEBLOCKING

General Outcome:

12.0 The student shall: be able to identify and compare different deblocking procedures.

Specific Measurable Learning Outcomes:

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

- 12.1 Describe the deblocking of a lens blocked with metal alloy.
- 12.2 Describe the deblocking of a lens blocked with adhesive pads.

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Unit 13 FINAL INSPECTION

General Outcome:

13.0 The student shall: 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:

- 13.1 List the steps in the final inspection process.
- 13.2 Discuss the ANSI standards as they apply to prescription glasses.