

**RARITAN VALLEY COMMUNITY COLLEGE
ACADEMIC COURSE OUTLINE**

OPTH 106 OPHTHALMIC SCIENCE MATERIALS II LAB

1. Basic Course Information

A. Course Number and Title: OPTH 106 Ophthalmic Science Materials II Lab

B. New or Modified Course: Modified

C. Date of Proposal: Semester: Fall Year: 2025

D. Effective Term: Fall 2026

E. Sponsoring Department: Health Science Education

F. Semester Credit Hours: 3

Lecture: 0

G. Weekly Contact Hours: 6

Laboratory: 6

Out of class student work per week: 3

H. Prerequisite (s): grade of C or higher in OPTH-100 Ophthalmic Materials I Lecture and OPTH 105 Ophthalmic Materials I Lab

Corequisite (s): OPTH-101 Ophthalmic Materials II Lecture

I. Additional Fees: No

II. Catalog Description

Prerequisites: grade of C or higher in OPTH-100 Ophthalmic Materials I Lecture and OPTH 105 Ophthalmic Materials I Lab

Corequisites: OPTH-101 Ophthalmic Materials II Lecture

A continuation of Ophthalmic Materials I Laboratory. The emphasis will be on the finishing aspects of prescription eyewear. Topics include neutralization, mark-up, layout, edging, insertion, and final inspection. Additional topics include frame and instrument repairs, rimless mountings and faceting. The students will be expected to learn the complete fabrication of prescription eyewear utilizing the instrumentation of the optical profession. If the student is registered with the State Board as an apprentice, Ophthalmic Materials II must be successfully completed to be eligible for the State Board Qualifying Technician Exam.

Minimum grade of C required

III. Statement of Course Need

- A. This is a required course for the Ophthalmic Science (Opticianry) AAS degree and Ophthalmic Science (Opticianry) Certificate-Apprenticeship Option.
- B. This is a required lab course.
- C. This course is not designed for transfer.

IV. Place of Course in College Curriculum

- A. Free elective
- B. This is a required course for the Ophthalmic Science (Opticianry) AAS degree and Ophthalmic Science (Opticianry) Certificate-Apprenticeship Option.
- C. To see course transferability: a) for New Jersey schools, go to the NJ Transfer website, www.njtransfer.org; b) for all other colleges and universities, go to the individual websites.

V. Outline of Course Content

- A. Spotting, marketing and verification of single vision horizontal prism.
- B. Laboratory practice and project fabrication.
- C. Compound prism theory, resolving prism with the graphical technique, lensometer spotting procedure and verification of compound prism.
- D. Prism classifications, prismatic symptoms and patient complaints, laboratory practice and project fabrication.
- E. Bifocal size/style/function, bifocal spotting and centration, add power verification, and layout blocker procedures.
- F. Plastic lens tinting procedure, neutralization policy and procedure, laboratory practice and project fabrication.
- G. Manual and automatic rimless grooving machines, diamond and diamond bevel wheel hand stones, laboratory practice and project fabrication.
- H. Manual and automatic lens faceting, laboratory practice and project fabrication. Rimless tools, ophthalmic adjusting pliers and adjustment techniques, New Jersey State Board bifocal minimum standards and tolerances, laboratory practice and project fabrication.
- I. Ophthalmic frame materials, content, characteristics and usage, laboratory practice and project fabrication.
- J. Ophthalmic equipment maintenance and calibration, ophthalmic record keeping requirements.
- K. Laboratory practice, project fabrication and completion utilizing the Optronics Horizon II dry bevel edger and A.I.T. Speedblocker Technology.

VI. A. Course Learning Outcomes:

At the completion of the course, the student will be able to:

1. Interpret more complex ophthalmic prescriptions to explain the defects of human vision that they will correct.

2. Describe the procedure to work proficiently and safely in an ophthalmic laboratory setting.
3. Demonstrate the knowledge and skills required to accurately fill any prescription requiring a prismatic correction according to the NJ minimum standards and tolerances.
4. Demonstrate the knowledge and skills required to accurately fill any bifocal correction according to the NJ minimum standards and tolerances.
5. Demonstrate the skill required to accurately tint ophthalmic plastic lenses.
6. Accurately neutralize any single vision prescription according to the NJ minimum standards and tolerances.
7. Perform the fundamentals required to accurately neutralize bifocal prescriptions according to the NJ minimum standards and tolerances.
8. Utilize different types of optical equipment which is widely used in the profession.
9. Perform advanced skills of opticianry, including, but not limited to rimless grooving, diamond hand edging and faceting according to current industry standards.
10. Apply the use of ophthalmic adjusting tools and pliers.
11. Apply knowledge and understanding of the major frame materials to the use and handling of frames.
12. Properly maintain and calibrate ophthalmic equipment according to industry standards.
13. Demonstrate understanding of the New Jersey and Federal requirements for ophthalmic record keeping.
14. Accurately fill any Rx in any frame or mounting in order to be deemed a competent entry level Ophthalmic Technician.
15. Demonstrate and explain proper safety procedures utilized in an Ophthalmic Lab as outlined in the Ophthalmic Safety manual.
16. Explain state and federal OSHA requirements.

B. Assessment Instruments

1. laboratory projects.
2. written examinations

VII. Grade Determinants

1. laboratory projects.
2. written examinations

Given the goals and outcomes described above, LIST the primary formats, modes, and methods for teaching and learning that may be used in the course:

- A. lecture/discussion
- B. small group work
- C. laboratory work

VIII. Texts and Materials

A. Brooks, Clifford. Essentials of Ophthalmic Lens Finishing. Stoneham, MA: Butterworth-Heineman, 2003, 2nd Ed.

B. Department literature

(Please Note: The course outline is intended only as a guide to course content and resources. Do not purchase textbooks based on this outline. The RVCC Bookstore is the sole resource for the most up-to-date information about textbooks.)

IX. Resources

A. Ophthalmic laboratory facilities

B. Lenses and ophthalmic frames.

X. Check One: Honors Course N/A