RARITAN VALLEY COMMUNITY COLLEGE
ACADEMIC COURSE OUTLINE

OPTH 111 OPTHALMIC DISPENSING I LECTURE

I. Basic Course Information

A. Course Number and Title: OPTH 111 Ophthalmic Dispensing I Lecture

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**

G. Weekly Contact Hours**:** 3 Lecture**:** 3
Laboratory**:** 0
Out of class student work per week: 6

H. ☒ Prerequisite (s): grade of C or higher in OPTH-101 Ophthalmic Materials II Lecture and OPTH 106 Ophthalmic Materials II Lab
☒ Corequisite (s): OPTH-115 Ophthalmic Dispensing I Lab

I. Additional Fees**:** No

II. Catalog Description

Prerequisite: grade of C or higher in OPTH-101 Ophthalmic Materials II Lecture and OPTH 106 Ophthalmic Materials II Lab
Corequisite: OPTH-115 Ophthalmic Dispensing I Lab

Ethics, practices, and responsibilities of the ophthalmic Dispenser. Includes determination of patient's needs, prescription analysis and interpretation of single vision, multifocal, and prism lenses, considerations in making glasses for occupational use, lens aberrations, the effect of tilt, and tinted lenses and their uses. 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. There is no lab component.
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. Assessment exam, review of materials formulae.
B. Assessment exam review, continue materials formulae review, glossary, refraction of a single light ray.
C. Refraction of multiple light rays, angle of incidence, angle of refraction, N, prismatic deviation, Snell's Law.
D. Vergence, conjugate points, image and object vergence, focal points in vergence, lens forms vs. refractive errors, glossary review.
E. Corrected curve theory, introduction of lens aberrations.
F. Coma, distortion, marginal/radial astigmatism, chromatism, curvature of field, spherical aberration, contrast sensitivity, vertex considerations.
G. Front and back vertex power, lens thickness, positional lens power.
H. Martin's formula, lens tilt, effective prescription changes.
I. Pantoscopic tilt origin, anatomical considerations, optical center alignment, optical center correction, spherical prescription resultant power changes
J. Sphero-cylinder prescription resultant power changes; formulae, parabolic curvature, effective Rx changes, formulae.
K. Face planes, eye positions and movements, primary position, angle of azimuth and altitude, Listing's plane, Olsho's baseline, cardinal, secondary and tertiary movements.
L. Absorptive lenses and coatings, effects on visual acuity, destructive interference principles, indications and contraindications, ultraviolet radiation and ocular damage.
M. Visual acuity and the Snellen System of measurement, far point, far point sphere, duo chrome test, Jaeger System, motor vehicle standards, patient management and professional ethics.
N. Basic insurance review.

VI. A. Course Learning Outcomes:

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

1. Communicate with a variety of constituents using optical terminology.
2. Explain the foundation of geometric optics.
3. Explain the visual acuity testing systems.
4. Expand vocabulary in appropriate ocular terminology in order to interact appropriately with other optical professionals.
5. Demonstrate the knowledge and understanding of lens aberrations and their application to the corrected curve theory.
6. Describe the knowledge and skills required to adapt prescription eyewear while avoiding the lens aberrations associated with pantoscopic tilt.
7. Develop knowledge of ocular planes, positions, and movements.
8. Describe an understanding of the indications and contraindications for ophthalmic absorption lenses.
9. Explain the assessment techniques for visual acuity and the New Jersey Motor Vehicle visual requirements.
10. Discuss the professional ethics and conduct expected of a licensed Ophthalmic Dispenser. OBJ

B. <u>Assessment Instruments</u>

1. review of prior learning from prerequisite courses
2. written examinations
3. written quizzes
4. group oral presentation

VII. Grade Determinants

A. review of prior learning from prerequisite courses
B. Examinations
C. Oral presentations

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. Computer assisted instruction
D. Student oral presentations
E. simulation/role playing

VIII. Texts and Materials

A. Textbook: Brooks, Clifford & Borisch, Irving. <u>Systems for Ophthalmic Dispensing</u>, Fourth Ed. Stoneham, MA.: Butterworth, 2024.
B. Supplemental Handouts available via Canvas
C. Power point presentations

D. Internet web sources

(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. RVCC Library
B. Canvas Course

X. Check One: ☐Honors Course ☒ N/A