



DOUGLAS COLLEGE

**EFFECTIVE: SEPTEMBER 2012
CURRICULUM GUIDELINES**

A. Division: Academic Effective Date: September 2012

B. Department / Faculty of Science & Technology / Revision New Course
 Program Area: Dispensing Optician

If Revision, Section(s) Revised: A, B, G, K, N

Date of Previous Revision: June 2009

Date of Current Revision: February 2012

C: DOPT 2101 **D:** Theory in Contact Lenses and Optical Technologies I **E:** 7

Subject & Course No.	Descriptive Title	Semester Credits
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F: Calendar Description:

This course will provide students the knowledge of Anatomy and Physiology of the eye in relation to contact lens fitting. It will provide the skills of instrumentation in the fitting of contact lenses, the process of refractive error determination, the conversion and verification of prescriptions, and the examination of the relationship between contact lens fit, corneal health and residual refractive error. It provides students the ability needed to evaluate suitability for contact wear, by patient ocular history and examination. It will provide the student the ability to design the appropriate contact lens parameters, to select the appropriate material, to train the patient on proper handling technique, lens care and hygiene. It will identify refractive surgeries, the measurement of intraocular pressure and related professional standards of practice.

G: Allocation of Contact Hours to Type of Instruction / Learning Settings

Primary Methods of Instructional Delivery and/or Learning Settings:

Lecture / Distance

Number of Contact Hours: (per week / semester for each descriptor)

Lecture	60 hours.
Student Directed Learning	90 hours.

Number of Weeks per Semester:

15

H: Course Prerequisites:

DOPT 1310 or Meeting Direct Entrance Requirements

I: Course Corequisites:

None

J: Course for which this Course is a Prerequisite:

DOPT 2201, DOPT 2211

K: Maximum Class Size:

30

L: PLEASE INDICATE:

<input type="checkbox"/>	Non-Credit
<input checked="" type="checkbox"/>	College Credit Non-Transfer
<input type="checkbox"/>	College Credit Transfer:

SEE BC TRANSFER GUIDE FOR TRANSFER DETAILS (www.bctransferguide.ca)

M: Course Objectives / Learning Outcomes

Upon successful completion, the student will be able to:

1. Explain the important people, events and key trends pertaining to the historical development of contact lenses
2. Describe the anatomy and physiology of the human visual system
3. Identify and describe pathological conditions of the human visual system
4. Identify the contact lens instruments used in a contact lens practice
5. Identify the equipment and their functions in the refraction process
6. Identify the steps required to complete an assessment of refractive error during the course of the process of refraction
7. Identify the respective areas of the professional standards of practice pertaining to the automated refractive process
8. Identify and describe the corneal and intraocular refractive surgical procedures and their implications on contact lens wear
9. Describe the design of contact lenses and related parameters
10. Define and calculate basic ophthalmic optical units of measurements
11. Become familiar with the College of Opticians of B.C. Professional Standards of Practice (Contact Lenses) in areas pertaining to tools required, optical tolerances, professional conduct, and the accepted practices for the use of autorefractors/automated systems.

N: Course Content:

1. College of Opticians Website Reference Tools
2. Technological Changes and Trends in CL History
3. Basic Anatomy, Physiology, and Pathology of the Visual System
 - a. Anatomy of the Visual System
 - b. Physiology of the Visual System
 - c. Pathology of the Visual System
 - d. Ocutouch interactive Anatomy, Physiology, and Pathology Software
 - e. Ocular Pathology – new technologies in pathology detection and treatment
 - f. The use of Lasers in treatment of ocular disease
 - g. Contact Lens Related Defects of the Visual System
4. A Focus on the Cornea
 - a. Corneal Anatomy
 - b. Corneal Physiology
 - c. Maintenance of Corneal Transparency
5. Instrumentation
 - a. Biomicroscopy
 - b. Keratometry
 - c. Automated Corneal Topography
 - d. Contact Lens Inspection and Verification
 - e. Automated refraction
 - f. Contact Lens simulation software
6. Introduction to Refraction
 - a. Refraction Equipment
 - b. Refraction Process
 - c. Tonometry
 - d. Contraindications
7. Refractive Surgery
 - a. Corneal Refractive Surgery
 - b. Intraocular Refractive Surgery
 - c. Lasers in Refractive Surgery

<p>8. Contact Lens Materials, Design, and Fitting</p> <ol style="list-style-type: none"> a. Soft Lens Materials b. Gas Permeable Materials c. Silicone Hydrogel materials d. Basic fitting philosophies e. Toric Contact Lens Designs f. Web-based References <p>9. Visual Optics</p> <ol style="list-style-type: none"> a. Spherical Equivalent Calculations b. Diopter Conversion formula c. Vertex Distance Compensation Formula d. Tear Lens Compensation e. Residual Astigmatism Calculation f. Calculation software g. Convergence and Accommodation h. Magnification and Minification of Image Size <p>10. Contact Lens Solutions</p> <ol style="list-style-type: none"> a. Preservatives in Contact Lens Solutions b. Proper use of Contact Lens Solutions c. Potential Side Effects of Contact Lens Solutions d. Patient Education and Training e. Web Training Tools and Aids
<p>O: Methods of Instruction:</p> <ol style="list-style-type: none"> 1. Lectures 2. Independent study of courseware 3. Independent completion of online self-assessment quizzes 4. Completion of field assignments 5. Participation in online Discussion Forums
<p>P: Textbooks and Materials to be Purchased by Students:</p> <p>A list of required and optional textbooks and materials is provided for students at the beginning of each semester.</p>
<p>Q: Means of Assessment:</p> <p>The course evaluation is consistent with Douglas College evaluation policy. An evaluation schedule is presented at the beginning of the course.</p>
<p>R: Prior Learning Assessment and Recognition: specify whether course is open for PLAR</p> <p>Yes</p>

Course Designer(s) DOPT Faculty

Education Council / Curriculum Committee Representative

Dean / Director: Dr. Thor Borgford

Registrar