Douglas College

EFFECTIVE: SEPTEMBER 2002

CURRICULUM GUIDELINES

A: Division: **HEALTH SCIENCES**

B: Department/ Program Area: **DISPENSING OPTICIAN PROGRAM**

Date: **May 23, 2002**

New Course [ ] Revision [X]

If Revision, Section(s) Revised: **P, Q**

Date Last Revised: **November 5, 2001**

C: **DOPT 400** (Subject & Course No.) **D:** **CONTACT LENS THEORY I** (Descriptive Title) **E:** **7** (Semester Credits)

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 fitting contact lenses, convert and verify prescriptions, and examine the relationship between contact lens fit and corneal health. It provides students the ability needed to evaluate suitability for contact wear, by patient ocular history and examination. The ability to design the contact lens, select appropriate material, train the patient proper handling technique, lens care and hygiene. It will identify surgical alternatives and pertinent professional standards of practice.

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

Primary Methods of Instructional Delivery and/or Learning Settings:

Lecture and Student Directed Learning

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

Lecture:	**75 hrs.**
Student Directed Learning:	**100 hrs.**

Number of Weeks per Semester: **15**

H: Course Prerequisites:

DOPT 310 or Meeting Direct Entrance Requirements

I. Course Corequisites:

DOPT 410, 412

J. Course for which this Course is a Prerequisite:

DOPT 500

K. Maximum Class Size:
35

L: PLEASE INDICATE:

[ ] Non-Credit

[X] College Credit Non-Transfer

[ ] College Credit Transfer: Requested [ ] Granted [ ]

SEE BC TRANSFER GUIDE FOR TRANSFER DETAILS (www.bccat.bc.ca)

M: Course Objectives/Learning Outcomes
Upon successful completion, the student will be able to:

A. 1. 1.1 Identify important people, events and key trends pertaining to the historical development of contact lenses

2. 2.1 Review and define the terms pertaining to the basic anatomy and physiology of the human visual system at an advanced level
2.2 Identify anatomical structures of the human visual system
2.3 Describe the physiology of the human visual system

3. 3.1 Define the terms pertaining to defects of the human visual system
3.2 Identify and describe pathological conditions of the human visual system
3.3 Identify and describe defects of the human visual system which are contact lens related

4. 4.1 Define the terms pertaining to the instruments used in a contact lens practice
4.2 Identify the parts of the contact lens instruments used in a contact lens practice
4.3 Interpret the results of data acquired from contact lens instruments

5. 5.1 Review the terms pertaining to refractive surgical procedures on the human visual system
5.2 Identify and describe the corneal and intraocular refractive surgical procedures and their effects on contact lens wear

6. 6.1 Define the terms pertaining to the design of contact lenses
6.2 Describe the differences between various contact lens materials, manufacturing methods and designs
6.3 Describe the advantages and disadvantages of various contact lens materials and designs
6.4 Describe the proper use of contact lens solutions
6.5 Classify contact lens materials and designs
6.6 Describe fitting philosophies of contact lenses

7. 7.1 Define the terms pertaining to the units of measurement used in contact lenses
7.2 Calculate front and back vertex powers of contact lenses
7.3 Convert a prescription for contact lens use
7.4 Calculate residual astigmatism
7.5 Describe convergence and accommodation with respect to contact lens wear
7.6 Calculate image size changes due to contact lens wear

8. 8.1 Become familiar with the Standards of Practice of Dispensing Opticians (Contact Lenses) from the College of Opticians of B.C. pertaining to tools required, optical tolerances and professional conduct.

N: A. Physiological Optics

1. Introduction

    1. Course Content Overview
    2. College of Opticians Guidelines
    3. Sign pledge to Code of Ethics and Practice Standards
    4. Deliver and discuss the standards of practice by the College of Opticians in BC
    5. Douglas College Student Policies orientation
    6. Responsibilities to the Contact Lens Patient by Health Care Providers

2. History of Contact Lenses

    1. Chronology of Important Events in Contact Lens History
    2. Key Trends in Contact Lens History

3. Basic Anatomy and Physiology of the Visual System

    1. Terminology
    2. Anatomy of the Visual System
    3. Physiology of the Visual System

4. The Cornea

    1. Terminology
    2. Corneal Anatomy
    3. Corneal Physiology
    4. Maintenance of Corneal Transparency

5. Defects of the Visual System

    1. Terminology
    2. Corneal Pathology
    3. Ocular Pathology
    4. Contact Lens Related Defects of the Visual System

6. Instrumentation

    1. Terminology
    2. Biomicroscopy
    3. Keratometry and Corneal Topography
    4. Contact Lens Inspection and Verification
    5. Contact Lens Modification

N: 7. Refractive Surgery

1. Terminology
2. Corneal Refractive Surgery
3. Intraocular Refractive Surgery

B. Applied Optics

1. Contact Lens Materials

1. Soft Lens Materials
2. Gas Permeable Materials

2. Contact Lens Design

1. Basic fitting philosophies
2. Classification and Terminology
3. Soft Lens Design
4. Gas Permeable Lens Design
5. Fitting Relationships
6. Toric Contact Lens Designs

3. Visual Optics

1. Terminology
2. Front and Back Vertex Power
3. Spherical Equivalent
4. Radius of Curvature to Diopter Conversion Formula
5. Vertex Distance Compensation Formula
6. Tear Lens Compensation
7. Residual Astigmatism Calculation
8. Convergence and Accommodation
9. Magnification and Minification of Image Size
10. Water Content Calculation

4. Contact Lens Solutions

1. Terminology
2. Soft Contact Lens Solutions
3. Gas Permeable Contact Lens Solutions
4. Preservatives in Contact Lens Solutions
5. Proper use of Contact Lens Solutions
6. Potential Side Effects of Contact Lens Solutions

O: Methods of Instruction

1. Lecture
2. Calculation exercises in classroom
3. Independent study of courseware
4. Independent completion of post tests
5. Completion of field assignments

P: Textbooks and Materials to be Purchased by Students

Mandell, **Contact Lens Practice**, (Latest edition), Charles C. Thomas Publishing

Stein - Slatt - Stein, **Fitting Guide for Rigid and Soft Contact Lenses**, (Latest edition), C.V. Mosby Co.

Stein-Slatt, **Ophthalmic Assistant**, (Latest edition)St. Louis, MO

Douglas College **Contact Lens Courseware**

Q: Means of Assessment

Evaluation of the course will be based on the course objectives in accordance with Douglas College policies. Evaluation methods will include written tests and assignments.

1.	Completion of post tests (X2)	30%
2.	Midterm exam	30%
3.	Final exam	30%
4.	Completion of field assignments	10%

R: Prior Learning Assessment and Recognition: specify whether course is open for PLAR

Yes

Course Designer(s) Education Council/Curriculum Committee Representative

Dean/Director Registrar