



September 2007

C:	D:	E:						
Subject & Course No.	Descriptive Title	Semester Credits						
F: Calendar Description: This course provides learning opportunities in the contact lens program at an advanced level. Students will apply knowledge and skills from related contact lens theory and laboratory courses to the contact lens dispensary. Students will continue their clinical practice in the Douglas College Vision Centre. They will complete their contact lens dispensing skills under the direct supervision of an Optician / Contact Lens fitter, or Optometrist, or Ophthalmologist and program instructor.								
G: Allocation of Contact Hours to Type of Instruction / Learning Settings Primary Methods of Instructional Delivery and/or Learning Settings: Clinical Number of Contact Hours: (per week / semester for each descriptor) Clinical Experience 120 Number of Weeks per Semester: 15	H: Course Prerequisites: DOPT 2400 AND DOPT 2410 AND DOPT 2412							
	I: Course Corequisites: DOPT 2500, DOPT 2512							
	J: Course for which this Course is a Prerequisite DOPT 2610							
	K: Maximum Class Size: 14							
L: PLEASE INDICATE: <table><tr><td><input type="checkbox"/></td><td>Non-Credit</td></tr><tr><td><input checked="" type="checkbox"/></td><td>College Credit Non-Transfer</td></tr><tr><td><input type="checkbox"/></td><td>College Credit Transfer:</td></tr></table> SEE BC TRANSFER GUIDE FOR TRANSFER DETAILS (www.bctransferguide.ca)			<input type="checkbox"/>	Non-Credit	<input checked="" type="checkbox"/>	College Credit Non-Transfer	<input type="checkbox"/>	College Credit Transfer:
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M: Course Objectives / Learning Outcomes

Upon successful completion, the student will be able to:

1. Obtain a general history from the patient through discussion to determine visual, physiological, pathological problems, and activity needs of the patient.
2. Review and compare past and current ocular status and assess suitability for lens wear, and determine what diagnostic activities must be conducted to complete evaluation.
3. Use instrumentation and other provisional methods to determine appropriate hard and gas permeable contact lens types and designs.
4. Interpret patient refractive error and keratometry readings by analyzing a written prescription and accumulated information to meet patient's needs.
5. Discuss hard and gas permeable contact lens options with the patient as related to the ocular status and prescription.
6. Apply knowledge of hard and gas permeable lens materials, characteristics, and physiology to maintain ocular integrity and visual requirement of the patient.
7. Conduct a diagnostic evaluation by inserting a trial lens and evaluating objective findings to determine appropriate design and fitting relationship.
8. Determine aggregate lens parameters from the diagnostic fitting and patient subjective responses and order contact lenses by specific lens parameters to achieve optimal fit and visual acuity.
9. Educate the patient by providing verbal and written instructions and hands-on practice of hard and gas permeable lens insertion / removal procedures.
10. Educate the patient by providing verbal and written instructions and hands-on practice of hard and gas permeable lens care and hygiene.
11. Determine the patient's subjective responses to contact lens wear by follow-up examination to evaluate appropriateness of lens comfort, material and solution compatibility and visual acuity.
12. Evaluate contact lens fit by observation using instrumentation, diagnostic tools, and empirical methods and determine objective findings.
13. Make necessary modifications of lens parameters, lens materials and / or lens solutions to improve fitting characteristics, ocular health, patient compliance, and visual acuity.
14. Verify visual acuity by over-refraction using instrumentation, diagnostic tools, and mathematical calculation.
15. Reinforce to the patient the necessity of follow-up examination for compliance, evaluation, contact lens care, hygiene and handling protocols.

N: Course Content:**1. Introduction**

- Clinical Objectives
- Clinical and personal hygiene

2. Instrumentation

Slit Lamp Biomicroscope	Keratometry	Lensometer
Profile Analyzer	Hand Loop	Diameter Gauge
Vertex Conversion Chart	Dioptric Conversion Chart	Radiuscope
Snellen Chart	Acuity Trial Lens Set	

3. Prefit Evaluation / Hard and Gas Permeable Contact Lenses**3.1 Advanced Ocular Anatomy and Physiology**

Cornea Structure	Conjunctiva	Lid Structure
Tear Film	Lashes	Crystalline Lens
Iris	Pupil	Sclera

3.2 Advanced Ocular Pathology

Conjunctivitis	GPC	Blepharitis
Exophthalmos	Keratoconus	Keratitis sicca
Neovascularization	Pterygium	Pinguecula
Aniridia	Corneal Edema	Corneal Ulcers
Bullous Keratopathy	Corneal Dystrophies	

3.3 Abnormalities Affecting Hard and Gas Permeable Lens Wear

Alcohol	Drugs	Diabetes
Arthritis	Herpes	Thyroid
Ocular Medication	Systemic Disease	Allergies

- 3.4 Lifestyle Considerations for Hard and Gas Permeable Lens Wear
 Athletics Work Environment Climate
 Cosmetic Social Age
- 3.5 Interpreting Refractive Errors for Hard and Gas Permeable Lenses
 Myopia Hyperopia Presbyopia
 Aphakia Amblyopia Strabismus
 Astigmatism Aniseikonia Exotropia
 Esotropia Pseudophakia Anisometropia
- 3.6 Advanced Corneal Defects / Deformities / Injuries
 Keratoplasty Albinism Nystagmus
 Coloboma Retinopathy Radial Keratometry
 Laser Surgery
- 4. Determine Lens Type / Lens Design / Hard and Gas Permeable Lenses**
- 4.1 Hard and Gas Permeable Lens Configuration and Design
 Aspheric Front Toric Back Toric
 Bi-Toric Prism Ballast Keratoconus
 Presbyopic Design Aphakic Design Cosmetic Design
 Lenticular Myoflange Lenticular Hyperflange
- 4.2 Determination of Hard and Gas Permeable Lens Parameters
 Base Curve Diameter Edge Design
 Thickness Vertex Power
 Apical Posterior Curve Posterior Peripheral Curve
- 4.3 Chemical Properties / Relation to Pre-Fit Evaluation
 Oxygen Permeability Transmissibility Durability
 Thermal Conductivity Surface Wetting Stability
- 4.4 Lens Material Characteristics / Relation to Pre-Fit Evaluation
 Prescription Limitation Design Limitations
 Specific Gravity Colour Tinting
 Manufacturing Limitation
- 5. Solution Compatibility / Hard and Gas Permeable Lens Materials**
- 5.1 Chemical Disinfection Systems
 5.2 Ultrasonic Disinfection Systems
 5.3 Surfactant Cleaners
 5.4 Enzyme Cleaners
 5.5 Rewetting Agents
- 6. Fitting Procedure / Hard and Gas Permeable Lenses**
- 6.1 Procedure for Specific Lens Types
 Daily Wear Extended Wear
 Therapeutic Investigational
- 6.2 Procedure for Specific Patient Application
 Myopia Hyperopia Astigmatism
 Presbyopia Aphakia Esotropia
 Exotropia Therapeutic Pediatric
- 7. Patient Instruction / Delivery Procedure**
- 7.1 Patient Instruction / Verbal and Written
 - Patient hygiene
 - Insertion and removal techniques
 - Alternate insertion and removal techniques
 - Emergency responses to patient insertion and removal techniques
- 7.2 Patient Post Insertion / Removal Procedure
 - Movement / Centration / Stability
 - Burning / Itching / Stinging
 - Presence of a foreign body
 - Visual acuity
- 7.3 Hygiene for Hard and Gas Permeable Lens Care
 - Chemical Disinfection Systems
 - Ultrasonic Disinfection Systems
 - Surfactant Cleaners
 - Enzyme Cleaners
 - Rewetting Agents

7.4 Lens Sensitivities / Contamination

- Chemical contamination
- By-Product contamination
- Airborne contaminations
- Allergy reactions
- Systemic reaction
- Medication reaction

8. Patient Follow-up Care / Evaluation8.1 Instrumentation Diagnosis

- a) *Keratometry*
 - Post Lens fitting observation
 - Objective diagnosis
 - Corneal compatibility
- b) *Slit Lamp Biomicroscope*
 - Ocular anatomy
 - Ocular physiology
 - Lens fitting evaluation
 - Corneal compatibility
 - Objective diagnosis
 - Fluorescein pattern evaluation
- c) *Phoropter / Trial Lens Set*
 - Visual acuity verification

8.2 Aspects of Evaluation / Corrective Measures

Movement	Centration	Stability
Steep Lens	Flat Lens	Damaged Lens
Corneal Molding	Corneal Edema	Infection
Neovascularization	Corneal Staining	Foreign Body
Conjunctival Staining	Allergic Ocular Response	
Systemic Ocular Response		

8.3 Follow-up Protocols / Hard and Gas Permeable Lens Types

Aspheric	Front Toric	Back Toric
Bi-Toric	Prism Ballast	Keratoconus
Presbyopic	Aphakic	Cosmetic

8.4 Follow-up Protocols / Solution Compatibility

- Allergic ocular response
- Systemic ocular response
- Daily wear materials
- Extended wear materials
- Therapeutic / Pediatric materials

8.5 Follow-up Protocols / Specific Patient Types

- Routine
- Apprehensive
- Psychologically unstable
- Post Surgical

O: Methods of Instruction

1. Lecture
2. Clinical exercises in the dispensary
3. Independent study of procedures
4. Completion of independent evaluation
5. Completion of assignment

P: Textbooks and Materials to be Purchased by Students

Efron, **Contact Lens Practice**, (Latest Edition) Butterworth-Heinemann

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

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, oral and practical examination.

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| 1. | Completion of clinical fittings | 30% |
| 2. | Midterm Exam | 30% |
| 3. | Final Exam | 30% |
| 4. | Completion of Proficiency test | 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