

**CURRICULUM GUIDELINES**

**A:** Division: **HEALTH SCIENCES** Date: **May 23, 2002**

**B:** Department/ **DISPENSING OPTICIAN** New Course ☐ Revision ☒

Program Area: **PROGRAM**

If Revision, Section(s) Revised: **M, N**

Date Last Revised: **January 8, 2001**

**C: DOPT 412 D: CONTACT LENS LABORATORY I E: 4**

Subject & Course No. Descriptive Title Semester Credits

**F:** Calendar Description:  
This course provides students the laboratory skills for quality control of contact lens materials, solutions, and their ocular applications. The ability to calibrate, maintain and implement the use of the equipment and tools associated with the contact lens laboratory. It provides the student with the skills to assimilate information collected on contact lens materials and solutions for ocular application and effect.

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

Primary Methods of Instructional Delivery and/or Learning Settings:

**Laboratory**

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

**Laboratory 120 hrs.**

Number of Weeks per Semester: **15**

**H:** Course Prerequisites:  
**DOPT 310 /or/ Meeting Second Year Direct Entrance Requirements**

**I.** Course Corequisites:  
**DOPT 400 and DOPT 410**

**J.** Course for which this Course is a Prerequisite:  
**DOPT 510, DOPT 512**

**K.** Maximum Class Size:  
**14**

**L:** PLEASE INDICATE:

☐  
☒  
☐

Non-Credit

College Credit Non-Transfer

College Credit Transfer:

Requested

☐

Granted

☐

SEE BC TRANSFER GUIDE FOR TRANSFER DETAILS ([www.bccat.bc.ca](http://www.bccat.bc.ca))

**M: Course Objectives/Learning Outcomes**

Upon successful completion, the student will be able to:

1. Demonstrate competency with the use of the following instruments for contact lens fitting and analysis:
 

Slit Lamp Biomicroscope	Keratometry	Lensometry
Profile Analyzer	Hand Loop	Diameter Gauge
Vertex Conversion Chart	Dioptric Conversion Chart	Radiuscope
Acuity Charts	Acuity Trial Lens Set	
2. Accumulate skills and knowledge through use of instrumentation on contact lens materials, and the relationship to fitting procedures.
3. Evaluate data collected through instrumentation on contact lens parameters.
4. Evaluate material and fitting characteristics based on knowledge of chemical properties and characteristics of contact lens materials.
5. Assimilate imperfections of contact lens materials, identify the probable cause, and identify the resolution
6. Recall knowledge of contact lens materials by manufacturer, label name, material compound names, water content, power range and recommended patient fitting procedure and wearing schedule.
7. Recall knowledge of contact lens cold disinfection systems, lens storage solutions, surfactant cleaning solutions, enzyme cleaners, rewetting agents, and medically prescribed pharmaceutical agents.
8. Apply knowledge of contact lens solutions and contact lens material characteristics to physical cleaning and disinfection of contact lenses.
9. Analyze effective and non-effective solutions by contact lens surface examination
10. Recall knowledge of contact lens solutions by manufacturer, brand name, chemical ingredients, recommended usage.

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

- Laboratory objectives
- Orientation to laboratory instruments and equipment
- Laboratory hygiene
- equipment sterilization

**2. Instrumentation**

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

N: Course Content Cont'd**3. Lens Types , Material Characteristics , and Fitting Relationship to Ocular Health**

- 3.1 Material compounds
- 3.2 Material configurations and design
- 3.3 Lens parameter determination
- 3.4 Chemical properties of contact lenses
- 3.5 Manufacturer's material limitations

**4. Contact Lens Solution Properties, Chemical Compounds, and Relationship to Ocular Health**

- 4.1 Chemical Disinfection Systems
- 4.2 Thermal Disinfection Systems
- 4.3 Hydrogen Peroxide Disinfection
- 4.4 Surfactant Cleaners
- 4.5 Enzyme Cleaners
- 4.6 Rewetting Agents
- 4.7 Medically Prescribed Ocular Pharmaceutical Agents

**5. Solution Procedures / Specific Function**

- 5.1 Chemical Disinfection Systems
- 5.2 Thermal Disinfection Systems
- 5.3 Hydrogen Peroxide Disinfection
- 5.4 Surfactant Cleaners
- 5.5 Enzyme Cleaners
- 5.6 Rewetting Agents

**6. Contact Lens Contaminants / Bacteria / Fungus, and Fitting Relationship to Ocular Health**

- 6.1 Chemical contamination
- 6.2 Fungus / Bacterial growth
- 6.3 Protein build up
- 6.4 Calcium deposits
- 6.5 Airborne contamination
- 6.6 Dehydration

**7. Contact Lens Deformation / Defects and The Relationship to Fitting Complications**

- 7.1 Minuscule cracks
- 7.2 Stress cracks
- 7.3 Lathe cut deposits
- 7.4 De-Blocking deposits
- 7.5 Edge deformation
- 7.6 Hydration times
- 7.7 Unsterile vials and solution
- 7.8 Stale dating

**O:** Methods of Instruction

1. Laboratory Lectures
2. Application / Instrumentation exercises in Laboratory
3. Independent study of courseware
4. Completion of Proficiency Tests
5. Completion of Laboratory Assignments

**P:** Textbooks and Materials to be Purchased by Students

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

**Douglas College Courseware**

**Q:** Means of Assessment

Evaluation of this course will be based on the course objectives in accordance with Douglas College policies. Evaluation methods will include written, oral and practical assessment.

- |    |                                 |     |
|----|---------------------------------|-----|
| 1. | Completion of post tests        | 20% |
| 2. | Midterm exams (X2)              | 40% |
| 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

© Douglas College. All Rights Reserved.