



**EFFECTIVE: SEPTEMBER 2004**  
**CURRICULUM GUIDELINES**

**A. Division:** HEALTH SCIENCES      **Effective Date:** September 2004

**B. Department / Program Area:** DISPENSING OPTICIAN PROGRAM      **Revision**  New Course

**If Revision, Section(s) Revised:** C, I, J

**Date of Previous Revision:** May 23, 2002  
**Date of Current Revision:** September 2004

**C: DOPT 1100**      **D: DISPENSING OPTICIAN THEORY**      **E: 7**

Subject & Course No.	Descriptive Title	Semester Credits						
<p><b>F:</b> Calendar Description:            This course provides the introductory theory related to eyeglass dispensing. The following content areas are presented: basic mathematical calculations used in practice, optics, anatomy and physiology and conditions of the eye, instruments and tools used in practice, frames, lenses and analysis and interpretation of prescriptions, surgical alternatives, professional standards of practice.</p>								
<p><b>G:</b> Allocation of Contact Hours to Type of Instruction / Learning Settings</p> <p>Primary Methods of Instructional Delivery and/or Learning Settings:  <b>Lecture and Student Directed Learning</b></p> <p>Number of Contact Hours: (per week / semester for each descriptor)  <b>Lecture 90 hrs</b>  <b>Student Directed Learning 90 hrs</b></p> <p>Number of Weeks per Semester: <b>15</b></p>	<p><b>H:</b> Course Prerequisites:  <b>NIL</b></p>							
	<p><b>I:</b> Course Corequisites:  <b>DOPT 1112</b></p>							
	<p><b>J:</b> Course for which this Course is a Prerequisite  <b>DOPT 1200 + DOPT 1210 + DOPT 1212</b></p>							
	<p><b>K:</b> Maximum Class Size:  <b>35</b></p>							
<p><b>L: PLEASE INDICATE:</b></p> <table border="1"> <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> <p>SEE BC TRANSFER GUIDE FOR TRANSFER DETAILS (<a href="http://www.bccat.bc.ca">www.bccat.bc.ca</a>)</p>			<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 completion the student will be able to:

1. Perform signed arithmetic, basic algebra, geometry and trigonometry necessary to evaluate optical formulas
2. Apply knowledge of the theory and application of ophthalmic lenses
3. Calculate lens powers, prism powers and magnification
4. Define ophthalmic terms relating to lenses and prisms
5. Define ophthalmic terms relating to anatomical and physiological functions of the eye and its associated structures
6. Define terms related to normal vision and common disorders of the visual system
7. Discuss the propagation of light, dioptric measurements and surface powers
8. Discuss spherical lens design, fundamental aspects of cylindrical lenses, sphero-cylindrical lens design
9. Perform toric transposition
10. Discuss PD measurement, frame selection and simple prescription analysis
11. Demonstrate an understanding of Quality Standards, effective patient communication and professional salesmanship
12. Discuss regulations governing opticians and legal requirements

**N:** Course Content:  
Geometric Optics I

1. Signed arithmetic, review of basic algebra, geometry and trigonometry necessary to evaluate optical formulas
2. Metric system of measurements
3. Proper use of a scientific calculator in optics
4. Review of right angle triangles
5. Theories of light - waves vs. particles
6. The electromagnetic spectrum
7. Deviation of light by different mediums - refractive index
8. Ophthalmic prisms
9. Snell's Law and other related optical formulae
10. Calculations for surface curvature and focal power
11. The refractive power of lenses and power crosses

## Visual Optics I

1. Terminology related to ocular anatomy and conditions of the eye
2. Anatomy of the eye
3. Functional processes of the eye
4. Extraocular muscles, eyelids and tear film
5. Refractive errors
6. Refractive Surgery - basic concepts
7. Aging of the eye from youth to presbyopia - accommodation
8. Ocular pathology, conditions and abnormalities including strabismus, cataracts and glaucoma
9. Colour vision, tints and coatings

### Practical Optics I

1. Terminology related to optical instruments and ophthalmic lenses
2. Equipment for dispensing eyeglasses including the lensometer, pupilometer, distometer, lens clock and ruler
3. Measurements for eyeglass dispensing
4. Interpreting simple prescriptions
5. Transposing prescriptions
6. Tolerances for dispensing eyeglasses
7. Code of ethics and standards of practice
8. Orientation to COBC regulations
9. Responsibilities to the consumer

### **O:** Methods of Instruction

1. Lecture
2. Application/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

Brooks – Boris, **System for Ophthalmic Dispensing**, (Latest edition) New York, Fairchild

Cassin – Solomon, **Dictionary of Eye Terminology**, (Latest Edition) Florida, Triad Co.

Brooks - **Essentials for Ophthalmic Lens Work**, (Latest Edition) New York, Fairchild

#### **Douglas College Courseware**

Stein-Slatt, **The Ophthalmic Assistant**, (Latest Edition) St Louis, MO

### **Q:** Means of Assessment

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

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|------------------------------------|------|
| 1. Completion of Post tests (X 2)  | 30%  |
| 2. Midterm exams (X 2)             | 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

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Course Designer(s)

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Education Council / Curriculum Committee Representative

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Dean / Director

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Registrar