



**EFFECTIVE: JANUARY, 2008**  
**CURRICULUM GUIDELINES**

A. Division:

|   |  |
|---|--|
| <p><b>maintain</b><br/> the equipment and tools associated with the edging and finishing laboratory. It provides the student with skills to insert lenses into various frame materials, and mount lenses on to various frame designs.</p> |  |
| <p><b>G:</b></p>  | <p><b>H:</b> Course Prerequisites:<br/><br/>NIL</p>      |
|   | <p><b>I:</b> Course Corequisites:<br/><br/>DOPT 1100</p> |

**M:** Course Objectives / Learning Outcomes

Upon successful completion, the student will be able to:

- spot check lenses for surface quality
- verify the power of a single vision lens with the lensometer
- mark the optical centre and major reference point of a single vision lens
- calculate horizontal and vertical lens centration
- calculate lens blank size requirements
- perform the function of lens pattern calculation and formation
- perform the process of lens edging
- perform modifications of lens shapes by hand edging
- edge polish lenses
- perform lens insertion and mounting with various frame designs and materials
- calibrate the following instruments
 

|            |       |                 |
|------------|-------|-----------------|
| Lensometer | Edger | Lens Protractor |
|------------|-------|-----------------|
- perform lubrication and maintenance on the following equipment
 

|              |               |            |
|--------------|---------------|------------|
| Lens Blocker | Edger         | Hand Stone |
| Lensometer   | Pattern Maker |            |
- perform chemical and thermal lens hardening.
- define ophthalmic terms pertaining to frame materials, designs, fitting and adjustments
- perform frame fitting and adjustments

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

- course content and requirements
- orientation of the equipment and tools
- an overview of the edging process
- introduction to industry standard charts
- safety procedures in the laboratory

**2. Spotting of Lenses**

- checking for optimal surface quality
- use of the lensometer
- power verification of single vision lenses
- optical centre versus major reference point
- single vision lenses with prism

**3. Frames**

- frame parts, types & materials
- frame measurements & markings
- frame selection
- frame alignment & adjustment
- frame repairs
- specialized frames
- lens insertion
- frame maintenance & cleaning

**4. Centration of Single Vision Lenses**

- the mechanics of lens centration
- horizontal and vertical centration
- the boxing system
- calculating lens blank sizes
- industry standards formulas

5. **Blocking of Lenses**
  - the lens protractor
  - marking a single vision lens
  - double checking lens blank size
  - pupil distances and accuracy
  - blocking systems and their relationship to lens materials
  - deblocking lenses
  
6. **Lens Shape Formation**
  - pattern measurements and terminology
  - mounting and datum lines
  - pattern formation
  
7. **Edging**
  - the edging process
  - deviations from edger settings
  - lens chucking
  - bevel selection
  - variations in lens materials
  
8. **Hand Edging**
  - purpose of hand edging
  - developing the correct technique
  - correctional modifications
  - changing shapes
  - edge polishing
  - lens cleaning solutions
  
9. **Lens Insertion and Mounting**
  - frame materials
  - mounting design variations
  - hand tooling
  - heating and cooling
  - drilling and notching
  - grooving and nylon mounts
  - lens alignment
  - frame alignment
  - securing screws and pins
  - final verification
  
10. **Chemical and Thermal Hardening**
  - glass lens material
  - lens preparation
  - lens weight and hardening times
  - cooling process
  - verification with polariscope
  
11. **Calibration and Maintenance**
  - maintenance schedules
  - calibration of lensometer
  - centration devices
  - calibration of edgers
  - edger lubrication and coolant system
  - dressing and truing of diamond wheels
  - recycling of glass and plastic waste materials

**O:** Methods of Instruction

1.