**ESSEX COUNTY COLLEGE**

**Nursing and Allied Health Division**

**OPH 123 *–* Ophthalmic Materials Lab I**

**Course Outline**

**Course Number & Name:**  OPH 123 Ophthalmic Materials Lab I

**Credit Hours:**  4.0 **Contact Hours:**  3.0 **Lecture:** 3.0 **Lab:**  N/A **Other:**  N/A

**Prerequisites**:  Acceptance into the Vision Care program

**Co-requisites:** None **Concurrent Courses:** OPH 126

**Course Outline Revision Date:** Fall 2010

**Course Description:** This course teaches the use of basic lens measuring devices and gauges, LEAP system of blocking, and use of automatic and hand edging machinery. Standard frame alignment will be presented using zyl frames. Students will learn skills needed to fabricate a pair of eyeglasses including use of lensometers and vertometers and laying out single vision lenses in preparation for edging and final insertion into zyl and metal frames.

**Course Goals:** Upon successful completion of this course, students should be able to do the following:

1. use the necessary equipment to fabricate a pair of spectacles; and
2. use the necessary hand skills required to fabricate a pair of spectacles.

**Measurable Course Performance Objectives (MPOs)**: Upon successful completion of this course, students should specifically be able to do the following:

1. Use the necessary equipment to fabricate a pair of spectacles:

1.1 *neutralize a lens on the lensometers and mark it for edging;*

1.2 *use a variety of different edging machines;* and

1.3 *block a lens using various methods*

2. Use the necessary hand skills required to fabricate a pair of spectacles:

2.1 *bevel a lens on a hand stone;*

2.2 *insert a lens into a plastic and metal frame;*

2.3 *complete all types of single vision glasses according to ANSI standards;*

2.4 *complete 5 spherical, 5 cylindrical and 5 vertical and horizontal pairs of spectacles during the semester;* and

2.5 *work proficiently with both glass and plastic lenses*

**Methods of Instruction**: Instruction will consist of lectures, demonstrations, guest speakers, and audio-visual aids.

**Outcomes Assessment:** Projects are evaluated using checklist rubrics to determine student mastery of course objectives. Data is collected and analyzed to determine the level of student performance on these assessment instruments in regards to meeting course objectives. The results of this data analysis are used to guide necessary pedagogical and/or curricular revisions.

**Course Requirements:** All students are required to:

1. Maintain regular attendance.
2. Take part in class discussions.
3. Complete all projects as assigned.

**Methods of Evaluation:** Final course grades will be computed as follows:

**% of**

**Grading Components final course grade**

* 15 practical projects: (dates specified by the instructor) 100%

Projects will show evidence of the extent to which students meet course objectives, including but not limited to applying material learned and demonstrated in the course.

Note: Students must obtain an overall average of at least 70% to pass the course.

**Academic Integrity:** Dishonesty disrupts the search for truth that is inherent in the learning process and so devalues the purpose and the mission of the College.  Academic dishonesty includes, but is not limited to, the following:

* plagiarism – the failure to acknowledge another writer’s words or ideas or to give proper credit to sources of information; could result in a
* cheating – knowingly obtaining or giving unauthorized information on any test/exam or any other academic assignment;
* interference – any interruption of the academic process that prevents others from the proper engagement in learning or teaching; and
* fraud – any act or instance of willful deceit or trickery.

Violations of academic integrity will be dealt with by imposing appropriate sanctions.  Sanctions for acts of academic dishonesty could include the resubmission of an assignment, failure of the test/exam, failure in the course, probation, suspension from the College, and even expulsion from the College.

**Student Code of Conduct:** All students are expected to conduct themselves as responsible and considerate adults who respect the rights of others. Disruptive behavior will not be tolerated. All students are also expected to attend and be on time all class meetings. No cell phones or similar electronic devices are permitted in class. Please refer to the Essex County College student handbook, *Lifeline*, for more specific information about the College’s Code of Conduct and attendance requirements.

**Course Content Outline:** based on the text **Essentials of Ophthalmic Lens Finishing,** 2nd edition, by Clifford Brooks; published by Butterworth and Heinemann; IBSN #: 0-7506-7123-7

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| **Week** | **Topics/Content** | **Assignments** |
| 1 | Environmental and lab safety procedures | Read Student Handbook & sign after reading |
| 2 | Explain the use of all fabrication equipment | Read Laboratory Handbook  Read ch 1 in the text |
| 3 | Continue use of all FAB equipment & start jobs 1 – 5 | Start fabrication of jobs 1 – 5 in Lab Handbook  (spherical single vision; supervision)  Read ch 2 in the text |
| 4 | Frame terminology and decentration | Fabrication of jobs 1 – 5 in Lab Handbook  (supervision)  Read ch 3 in the text |
| 5 | Lensometry, decentration to create prism | Fabrication of jobs 1 – 5 in Lab Handbook  (supervision)  Read ch 4 in the text |
| 6 | Maintenance of equipment | Fabrication of jobs 1 – 5 in Lab Handbook  (supervision) |
| 7 | Cylindrical lenses | Fabrication of jobs 1 – 10 in Lab Handbook (cylindrical single vision; supervision)  Read ch 5 in the text |
| 8 | Bifocal types | Fabrication of jobs 1 – 10 in Lab Handbook  Read ch 6 in the text |
| 9 | Bifocal decentration vertical | Fabrication of jobs 1 – 10 in Lab Handbook (supervision) |
| 10 | Bifocal layout and blocking | Fabrication of jobs 1 – 10 in Lab Handbook (supervision)  Read ch 7 in the text |
| 11 | Effects of prism on vision | Fabrication of jobs 1 – 15 in Lab Handbook (supervision) |
| 12 | Layout of vertical prism | Fabrication of jobs 1 – 15 in Lab Handbook (supervision)  Read ch 8 in the text |
| **Week** | **Topics/Content** | **Assignments** |
| 13 | Maintenance of equipment | Fabrication of jobs 1 – 15 in Lab Handbook (supervision) |
| 14 | Layout of horizontal prism | Fabrication of jobs 1 – 15 in Lab Handbook (supervision)  Read ch 9 in the text |
| 15 | Crown glass – chemical & heat treating | Fabrication of jobs 1 – 15 in Lab Handbook (supervision) |