

**OPH 121**  
**ANATOMY AND PHYSIOLOGY OF THE EYE**

**COURSE DESCRIPTION:**

Prerequisites: ENG 090 AND RED 090 or DRE 098; or satisfactory score on placement test;  
Enrollment in the Opticianry or Optical Apprentice Certificate programs

Corequisites: None

This course covers the anatomical and physiological functions of the eye and its associated structures. Emphasis is on normal vision and common disorders of the visual system. Upon completion, students should be able to describe the visual process as well as label and describe the function of each part of the eye. Course Hours Per Week: Class, 3. Semester Hours Credit, 3.

**COURSE OBJECTIVES:**

Upon completion of the course the student will be able to demonstrate knowledge of the human eye structure, functions, and pathology, including:

- a. Identify the major components of the eye.
- b. Identify the associated structures of the eye.
- c. Relate the anatomical composition of the eye to the process of vision.
- d. Relate the function of the eye in accommodation.
- e. Relate eye movements in vision.
- f. Identify the refractive errors in the visual process.
- g. Define photopic and scotopic vision.
- h. Describe theories of color vision.
- i. Describe higher levels of binocular vision.
- j. Demonstrate knowledge of pathological anomalies of the eye.

**OUTLINE OF INSTRUCTION:**

- I. Basic anatomy
  - A. Cell and tissues
  - B. Mitosis
  - C. Terminology
- II. Terminology
- III. Gross ocular anatomy
  - A. Major components of the eye
- IV. Parts of the eye, structure and function
  - A. Cranial nerves
  - B. Ocular adnexa
  - C. Conjunctive

- D. Cornea
  - E. Sclera
  - F. Pupil
  - G. Uvea
  - H. Aqueous humor
  - I. Crystalline lens
  - J. Accommodation
  - K. Vitreous humor
  - L. Retina
  - M. Visual pathway
  - N. Extraocular muscles
  - O. Orbit
- V. Refractive errors
- VI. Common anomalies of the eye
- VII. Common surgical procedures
- VIII. Basic pharmacological agents

### **REQUIRED TEXTBOOK:**

Remington, Lee Ann. Clinical Anatomy of the Visual System. 2<sup>nd</sup> ed. Elsevier, 2004.

### **SUGGESTED REFERENCES:**

One of the following medical dictionaries, current edition:

Solomon and Cassin. Dictionary of Eye Terminology, Triad Publication.  
Thomas, Taber's Cyclopedic Medical Dictionary. F.A. Davis. Current edition  
Mosby's Medical Dictionary. Current edition.

### **STATEMENT FOR STUDENTS WITH DISABILITIES:**

Students who require academic accommodations due to any physical, psychological, or learning disability are encouraged to request assistance from a disability services counselor within the first two weeks of class. Likewise, students who potentially require emergency medical attention due to any chronic health condition are encouraged to disclose this information to a disability services counselor within the first two weeks of class. Counselors can be contacted by calling 919-536-7207, ext. 1413 or by visiting the Student Development Office in the Phail Wynn Jr. Student Services Center, room 1209.