

# DEPARTMENT OF PATHOLOGY AND LABORATORY MEDICINE

## Introduction

Pathology is the study of disease, its causes, development, and consequences. It is concerned with basic mechanisms of disease processes (pathobiology) and their structural/functional manifestations. Pathology combines the tools and the basic knowledge from many disciplines, such as molecular biology, cell biology, biochemistry, genetics, immunology, anatomy, and clinical sciences, to clarify the cause (etiology), natural course (pathogenesis), and diagnosis of disease. The department offers several pathology courses appropriate for undergraduate study.

In addition to formal courses, faculty members in the Department of Pathology and Laboratory Medicine of the UNC School of Medicine maintain active research programs and engage in training predoctoral students and postdoctoral fellows in a range of research endeavors. Undergraduate students interested in participating in a hands-on research experience should contact the director of graduate studies in pathology for more information. Contact information is available on the department's website (<https://www.med.unc.edu/pathology/>).

### Graduate Programs

- M.S. in Pathology (<https://catalog.unc.edu/graduate/schools-departments/pathology-laboratory-medicine/>)
- Ph.D. in Pathology (<https://catalog.unc.edu/graduate/schools-departments/pathology-laboratory-medicine/>)

## PATH-Pathology

### Undergraduate-level Courses

#### PATH 128. Biology of Human Disease. 3 Credits.

Open to all undergraduates. An overview of basic human molecular and cellular biology in the setting of common human diseases. The course emphasizes how an understanding of disease mechanisms provides the knowledge base for informed use of modern health care. Does not count as a course in the major.

#### Rules & Requirements

**Grading Status:** Letter grade.

### Advanced Undergraduate and Graduate-level Courses

#### PATH 426. Biology of Blood Diseases. 3 Credits.

An introduction to the biology and pathophysiology of blood and the molecular mechanisms of some human diseases: anemias; leukemias; hemorrhagic, thrombotic, and vascular disorders; and HIV disease/AIDS. Honors version available.

#### Rules & Requirements

**Requisites:** Prerequisites, BIOL 205; or BIOL 103 and BIOL 104 and BIOL 240; or permission of the instructor for students lacking the prerequisite.

**Grading Status:** Letter grade.

**Same as:** BIOL 426.

#### PATH 462. Experimental Pathology. 1-9 Credits.

Hours, credits, and instructor to be arranged on an individual basis. Hands-on research experience in a predetermined instructor's laboratory. Students learn and apply specific techniques and participate in investigations of molecular mechanisms responsible for disease processes (pathobiology). Contact the director of graduate studies in pathology for information. May be repeated.

#### Rules & Requirements

**Grading Status:** Letter grade.

#### PATH 464. Light Microscopy. 3 Credits.

Permission of the instructor. Course focuses on practical fundamentals of light microscopy including optics, contrast mechanisms, fluorescence, laser scanning confocal microscopy, photography, and digital imaging.

## Contact Information

### Department of Pathology and Laboratory Medicine

Visit Program Website (<http://www.med.unc.edu/pathology/>)  
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