

# PATHOLOGY - MD (PAT)

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## **PAT 211 Pathology-Laboratory Medicine 15 cr**

The course is designed to introduce the student to multiple facets of pathology as it is practiced in a modern clinical setting. These include current concepts of the pathogenesis of disease, a 'systemic' approach to the gross and microscopic abnormalities found in various disease status and correlation of these findings with clinical manifestations. Contained within the course is an introduction to the principles of laboratory medicine, including a survey of current techniques and cost effective use of the laboratory. These objectives are met through a series of lectures, laboratories, case studies, and small group discussions.

## **PAT 311 Pathology 4 cr**

### **PAT 400 Pathology Externship 1-4 cr**

To be determined.

### **PAT 416 Diagnostic Electron Microscopy 1-4 cr**

The attending pathologist will explain the operation of the electron microscopes and review cases with the student. Typical cases include anaplastic neoplasms, renal biopsies, brushings for ciliary fine structure and endomyocardial biopsies. In addition to the diagnostic cases, independent study of normal and/or abnormal tissues by the student is encouraged. The rotation also provides exposure to scanning electron microscopy with microprobe analysis.

### **PAT 417 Pediatric-Perinatal Pathology 1-4 cr**

Working closely with pathology faculty, the student will interface with pediatricians, pediatric surgeons, obstetricians, and neonatologists. Through clinicopathologic correlations the student will learn pathogenesis of diseases and contribute to the care of patients. The student will assist with examination and/or dissection of clinical, surgical and/or autopsy specimens, review of medical records, and evaluation of current literature. Interesting cases offer opportunities for detailed investigations that can be tailored to the interest and skills of the student.

### **PAT 418 Surgical Pathology 1-4 cr**

The student will be actively involved with all aspects of specimen handling and processing, from gross examination to routine histologic examination to special techniques.

### **PAT 419 Lab Med for Practicing Phys 1-4 cr**

The student will work closely with each Section Director of Chemistry, Hematology, Microbiology, and Blood Bank/ Hemostasis for a one or two week period. During each rotation, the student will learn the type of testing and work flow pattern for the section. Weekly conferences with reading lists will be held with each Section Director and/or Supervisor. Topics to be covered include appropriate use and interpretation of commonly performed laboratory tests, expected turn-around-times and the logistics of Stat testing, laboratory cost efficiency and quality of care, factors determining whether a test will be offered in-house or sent to a reference lab, important considerations in the choice of a reference lab for a medical practice, standard of analytical performance to expect from the laboratory, and how to utilize a Laboratory Information System to retrieve patient or test information.

### **PAT 424 Forensic Pathology 1-4 cr**

This is an introductory course designed to acquaint the student with a broad spectrum of activities encompassed by forensic pathology and death investigation. The emphasis on the course will be that of death investigation including scene attendance and correlating the scene background information and autopsy material to determine the cause and manner of death. Ancillary laboratory results such as toxicology and firearms examination will be incorporated into the analysis in appropriate cases.

### **PAT 428 Medicine and Literature 1-4 cr**

The elective will consist of study of diverse sources of literature related to the practice of medicine. Such sources will cover the spectrum from classical, medieval, renaissance, up to and including contemporary literature. The specific sources will be drawn from publications such as the annotated bibliography of Trautmann and Pollard, published by the Society for Health and Human Values\*\* as well as the twelve volumes of Literature and Medicine published by Johns Hopkins University Press. A particular effort will be made to identify genre of literature with which the student is unfamiliar and thereby serve as an introduction. An effort will also be made to relate the reading material to the career goals of the student. \*\*Literature and Medicine: Topics, Titles and Notes. Published by the Department of Humanities, Milton Hershey, etc. 209 pages.

### **PAT 444 Spec Elec-Pathology 1-4 cr**

To be prepared by the student in conjunction with the Course Director and approved by the Vice Dean before course can be added to schedule. This course is designed to offer students and faculty/clinical faculty an opportunity to develop electives which are not offered in the Elective Manual. Such an elective may be made permanent and printed in the next edition of the Elective Manual at the request of the Course Director and with the approval of the Curriculum Committee. At the discretion of the Vice Dean, this elective may count as the required "in-house" elective.

### **PAT 480 Diagnostic Electron Microscopy 1-4 cr**

The attending pathologist will explain the operation of the electron microscopes and review diagnostic cases with the students. Typical cases will include anaplastic neoplasms, renal biopsies, brushings for ciliary fine structure, and endomyocardial biopsies. Supplemental reading and case study materials, including journal articles and online material, will be assigned to augment the experience, and presentation of material to the other students and/or submission of summaries to the instructor will be required. The student will also participate in all aspects of the renal pathology service, including histologic examination and immunofluorescence microscopy. The rotation will also provide exposure to scanning electron microscopy with microprobe analysis.

### **PAT 481 Pediatric-Perinatal Pathology 1-4 cr**

Working closely with Pathology faculty, the student will interface with Pediatricians, Pediatric Surgeons, Obstetricians and Neonatologists. Through clinicopathologic correlations, the student will learn pathogenesis of diseases and contribute to the care of patients. The student will assist with examination and/or dissection of clinical, surgical and/or autopsy specimens, review of medical records, and evaluation of current literature. Interesting cases offer opportunities for detailed investigations that can be tailored to the interest and skills of the student.

### **PAT 482 Surgical Pathology 1-4 cr**

The student will be actively involved with all aspects of specimen handling and processing, from gross examination to routine histologic examination to special techniques.

**PAT 483 Lab Med for Practicing Phys 1-4 cr**

Laboratory medicine is an area of critical importance to appropriate patient care and yet it is an area in which many graduating medical students feel somewhat unprepared. This is generally due to the large number of laboratory assays available, the vast scope of their uses, and the limited experience medical students have with direct interpretation of these assays in the clinical setting. As the majority of graduating medical students will be ordering and interpreting laboratory studies in their residency training programs, this elective is designed to provide experience with practical and useful concepts of laboratory medicine, including cost-effective laboratory medicine work-ups, utility of specific assays for diagnosis, and effective triage of initial and follow-up laboratory results. Pertinent course information is posted to the PAT 483 eCompanion web site for student use while enrolled on the elective.

**PAT 484 Forensic Pathology 1-4 cr**

By attending autopsy examinations, scene investigations and court proceedings, the students will view the workings of a Medical Examiner's office, learn its role in determining the cause and manner of death and understand its relationship to the medical, law enforcement and public communities. The students will learn the most common causes of sudden, unexpected natural deaths, learn aspects of toxicology-related deaths and view/understand various types of unnatural deaths. Students will also be exposed to normal and pathologic gross anatomy and histology.

**PAT 485 Medicine and Literature 1-4 cr**

The elective will consist of study of diverse sources of literature related to the practice of medicine. Such sources will cover the spectrum from classical, medieval, renaissance, up to and including contemporary literature. The specific sources will be drawn from publications such as the annotated bibliography of Trautmann and Pollard, published by the Society for Health and Human Values\*\* as well as the twelve volumes of Literature and Medicine published by Johns Hopkins University Press. A particular effort will be made to identify genre of literature with which the student is unfamiliar and thereby serve as an introduction. An effort will also be made to relate the reading material to the career goals of the student. \*\*Literature and Medicine: Topics, Titles and Notes. Published by the Department of Humanities, Milton Hershey, etc. 209 pages.

**PAT 486 History & Review of Pathology 1-4 cr**

To review the history of medicine with the emphasis on the development of the concepts and understanding of pathology and review the large teaching collection of gross pathology specimens organ system by organ system.

**PAT 487 Clinical Path Correlation 1-4 cr**

Each student will attend all autopsy conferences, brain-cuttings and tumor boards in the department of Pathology to get regrounded in gross and histologic pathology. They will also attend all other conferences in the department for clinical pathologic correlations. In-depth seminar discussions will be held at least weekly based on the students' independent study of disease processes, expected clinical findings (including laboratory and radiographic results) and gross and histologic correlations. Each student will be expected to give a 30+ minute presentation of a complex fictional patient and the expected pathologic findings at the end of the rotation.