Cytotechnology

General Information

Cytotechnologists play a key role in the delivery of high-quality medical care. Cytotechnologists perform the initial work in detecting and diagnosing cancer by identifying malignant cells in patient specimens. Other benign and premalignant conditions also can be detected. When abnormalities are found, a pathologist reviews the slides and makes the final interpretation.

The cytotechnologist also supervises the preparation and staining of microscopic slides using a variety of laboratory techniques and equipment. Fine-needle aspiration is becoming an increasingly important diagnostic tool, and the cytotechnologist must be trained to assist in this technique as well as to interpret the material derived from various body sites.

The cytotechnology undergraduate degree program operates in cooperation with the Cytology Department of the University of Kansas Hospital. Also, several required classes are taken in the Department of Clinical Laboratory Sciences. It is one of many academic programs in the KU School of Health Professions on the KU Medical Center campus in Kansas City, Kan. Graduates receive a Bachelor of Science in Cytotechnology and are prepared to take licensing examinations required for employment in this field.

The KU cytotechnology program is accredited by the Commission on Accreditation of Allied Health Education Programs (http://www.caahep.org), 1361 Park Street, Clearwater, FL 33756. The sponsoring organization is the American Society of Cytopathology, 400 W. 9th St., Suite 201, Wilmington, DE 19801.

Advising and FAQ

For information about cytotechnology at KU, please visit the program’s website. Students interested in entering this field should contact an advisor as early as possible in their collegiate careers to ensure prerequisite course work will be completed on schedule. Contact an advisor today.

View some commonly asked questions we’ve received from prospective students.

Courses

CYTO 300. Introduction to Cytology. 5 Hours.
Orientation to the profession of cytotechnology including basic cell biology, ethics, the microscope, history of the profession. Also basic concepts of pathology are introduced including normal, benign proliferative, inflammatory, and reparative processes. The cellular alterations caused by these processes are introduced using the female genital system. The histology, anatomy, and endocrine system of the female genital tract are also covered. Microscopy of this section includes proper use and care of the microscope, hormonal cytology, and the range of normal reparative reactions. The recognition of specific infectious agents and/or their cellular manifestations is also included using the female genital tract as the body system under investigations. Prerequisite: Admissions to the Cytotechnology Program or permission of instructor. LEC.

CYTO 321. Neoplasia in the Female Genital Tract I. 5 Hours.
The pathologic concepts of neoplasia, the morphogenesis of carcinoma, and the cellular changes associated with both premalignant and malignant changes of squamous cell lesions in the cervix are studied. Microscopy in this section includes pre-screening of clinical care load identifying normal and abnormal cellular criteria. Prerequisite: CYTO 300 or instructor's permission. LEC.

CYTO 322. Neoplasia in the Female Genital Tract II. 6 Hours.
A continuation of CYTO 321 with the emphasis on lesions of the uterine corpus, metastatic lesions, and lesions of the vulva and vagina. Also treatment effect and pregnancy change are included in this section. Practical microscopy is also continued with the pre-screening of clinical cases. Prerequisite: CYTO 321 or instructor's permission. LEC.

CYTO 355. Cytology Lab Management, Respiratory Cytology and Oral Cytology. 4 Hours.
Cytology lab regulations and QC requirements. Management requirements regarding safety, quality improvement, and personnel. Also, the normal, benign, and malignant changes of the upper and lower respiratory tract and the oral cavity. The anatomy, histology, and cytology of each of the body sites is studied as well as infectious agents common to these sites. Microscopy includes prescreening gynecologic material while further increasing speed and accuracy. Respiratory and oral specimens are also included in the practical microscopy. Students rotate through the processing laboratory. Prerequisite: CYTO 322 or permission of the instructor. LEC.

CYTO 370. Effusions, C.S.F., and Miscellaneous Cytology. 3 Hours.
This course includes the cytology of the reticulo-endothelial system, effusions, CSF, and other miscellaneous fluids. Normal, benign, and malignant cellular criteria are covered as well as the anatomy and histology of each body site. Microscopy includes further practice in gyn material and all non-gyn specimens studied to this point. Students continue to use the processing laboratory on a rotating basis. Prerequisite: CYTO 355 or instructor's permission. LEC.

CYTO 380. Gastrointestinal, Breast, G.U. and F.N.A. Cytology. 6 Hours.
This course includes the cytology of the GI system, the breast, the urinary tract, and other miscellaneous body sites. The anatomy and histology of each of the body sites is studied; cellular criteria for benign, normal, and malignant changes are introduced. Advanced topics such as aspiration cytology will also be covered. Microscopy includes further practice in the pre-screening of gyn material as well as all non-gyn material studied to this point. Students continue to use the processing laboratory on a rotating basis. Prerequisite: CYTO 370 or instructor's permission. LEC.

CYTO 415. Scientific Method and Literature in Cytology. 1 Hour.
This course will focus on the scientific method and research tools as used in recent journal articles. Discussion will specifically focus on critical evaluation of the conclusions presented and the evidence used to support those conclusions. Also, data retrieval will be practiced as the students research and write a paper on a cytology related topic. Prerequisite: CYTO 380 or instructor's permission. LEC.

CYTO 420. Advanced Practicum in Cytology. 2 Hours.
Microscopy includes further practice in the screening of all gyn and non-gyn material at professional entry levels of speed and accuracy. Students continue to use the processing laboratory on a rotating basis and participate in case conference. Prerequisite: CYTO 380 or instructor's permission. LEC.

CYTO 450. Advanced Topics in Cytology. 2 Hours.
This course will include lectures on advanced topics in cytology. A comprehensive final examination completes the course. Students
continue to increase speed and accuracy in microscopy to at least professional entry levels. Prerequisite: CYTO 420 or instructor's permission. LEC.

**CYTO 523. Fundamental Analytical Techniques Laboratory. 1 Hour.**
A laboratory classroom experience and recitation providing hands-on practice of basic laboratory skills. Laboratory exercises will provide practice with: introduction to pipetting and calibration of pipettes; principles of spectrophotometry; standard curve preparation; basic quality control; laboratory safety. Prerequisite: Admission to the Cytotechnology program or consent of the instructor. LAB.