

Cytotechnology

Cytotechnology is an advanced allied health career which prepares students to use specialized equipment to study cells for detecting cancer, hormonal abnormalities and other pathological disease processes. Individuals entering this curriculum must have earned a bachelor's degree with a concentration in the biological sciences.

Course work includes entry-level knowledge and skills in cell collection and preparation and microscopic use to interpret specimens. Graduates work in conjunction with pathologists to perform special diagnostic procedures.

Upon successful completion of the program, graduates receive a certificate in cytotechnology and are eligible to take the National Board of Certification Examination of the American Society for Clinical Pathology (ASCP). Cytotechnologists may find employment in hospital and university laboratories, private laboratories, private companies and research facilities.

For specific information about potential positions and wages in cytotechnology employment, visit the Central Piedmont Career Coach website.

CYT 210. Introduction to Clinical Cytology. 4.0 Credits. Class-4.0. Clinical-0.0. Lab-0.0. Work-0.0

This course provides an overview of the fundamentals of cell biology, basic histology, immunology, and laboratory operations and management as they relate to clinical cytology. Topics include the cell and cell division, histology, inflammatory processes, the immune response, CLIA, professional cytology organizations, workload limits, quality control, quality assurance, billing and coding in cytopathology, LIS systems and ethics. Upon completion, students should be able to understand basic cell biology, histology, immunologic processes, informatics, and the ethical role and responsibilities of the cytotechnologist in healthcare.

Corequisites: Take CYT 212, CYT 214, CYT 216 and CYT 222

CYT 212. Intro to Cyto Techniques. 4.0 Credits. Class-4.0. Clinical-0.0. Lab-0.0. Work-0.0

The course covers care and use of the light microscope and histological and cytological specimen preparation techniques and equipment. Topics include laboratory safety, chemical hygiene, universal precautions, and fundamentals of staining and fixation. Upon completion, students should be able to discuss and demonstrate the care and use of the microscope and discuss basic concepts of staining and fixation.

Corequisites: Take CYT 210, CYT 214, CYT 216 and CYT 222

CYT 214. Gynecological Cytology. 14.0 Credits. Class-8.0. Clinical-0.0. Lab-12.0. Work-0.0

This course covers gynecologic cytology, including, normal cytology, pre-malignancies, malignancies, and treatment modalities. Topics include anatomy, physiology, histology, and embryology of the female genital tract and breast; normal cytology, hormonal cytology, microorganisms, precursor lesions, carcinomas, treatment modalities, extrauterine and uncommon tumors, and FNA of the gonads and breast. Upon completion, students should be able to microscopically identify and discriminate between normal and pathological processes in the female genital tract or breast.

Corequisites: Take CYT 210, CYT 212, CYT 216 and CYT 222

CYT 216. Clinical and Diagnostic Interpretation I. 4.0 Credits.

Class-4.0. Clinical-0.0. Lab-0.0. Work-0.0

This course covers cytologic criteria and clinical correlations for representative cytologic and histologic specimens from the female genital tract. Emphasis is placed on the cytology and histology of the female genital system through unknown cases and image exercises. Upon completion, students should be able to detect, diagnose, and appropriately mark cells representative of any normal or pathological process from the female genital tract.

Corequisites: Take CYT 210, CYT 212, CYT 214 and CYT 222

CYT 220. Non-Gynecological Cytology. 12.0 Credits. Class-8.0.

Clinical-0.0. Lab-8.0. Work-0.0

This course covers non-gynecologic cytology and fine needle aspiration biopsy of all body sites. Topics include the anatomy, histology, pathology, and cytopathology of the respiratory tract, body cavities, urinary tract, gastrointestinal tract, head and neck, and central nervous system. Upon completion, students should be able to microscopically identify and discriminate between normal and pathological processes in non-gynecologic cytology.

Prerequisites: Take all: CYT 210, CYT 212, CYT 214, CYT 216, and CYT 222

Corequisites: Take CYT 224, CYT 226, CYT 236 and CYT 238

CYT 222. Cytopreparation Techniques. 2.0 Credits. Class-2.0.

Clinical-0.0. Lab-0.0. Work-0.0

This course covers the fundamental principles of cytopreparation for cytological specimens. Emphasis is placed on techniques related to cytopreparation. Upon completion, students should be able to demonstrate competence in the various cytopreparation methods.

Corequisites: Take CYT 210, CYT 212, CYT 214 and CYT 216

CYT 224. Gynecological Cytology Clinical Practicum I. 4.0 Credits.

Class-0.0. Clinical-12.0. Lab-0.0. Work-0.0

This course provides supervised clinical experience in gynecologic cytology. Emphasis is placed on cytological diagnosis by routine screening methods and observation of various procedures relevant to gynecologic cytology. Upon completion, students should be able to demonstrate mastery of all diagnostic skills.

Prerequisites: Take all: CYT 210, CYT 212, CYT 214, CYT 216, and CYT 222

Corequisites: Take CYT 220, CYT 226, CYT 236 and CYT 238

CYT 226. Clinical and Diagnostic Interpretation II. 4.0 Credits.

Class-4.0. Clinical-0.0. Lab-0.0. Work-0.0

This course covers cytologic criteria and clinical correlations for representative cytologic and histologic specimens from non-gynecologic body sites. Emphasis is placed on the cytology and histology of non-gynecologic body sites through unknown cases and image exercises. Upon completion, students should be able to detect, diagnose, and appropriately mark cells representative of any normal or pathological process from non-gynecologic body sites.

Prerequisites: Take all: CYT 210, CYT 212, CYT 214, CYT 216, and CYT 222

Corequisites: Take CYT 220, CYT 224, CYT 236 and CYT 238

CYT 230. Non-Gynecological Cytology Clinical Practicum. 2.0 Credits.

Class-0.0. Clinical-6.0. Lab-0.0. Work-0.0

This course provides supervised clinical experience in non-gynecologic cytology. Emphasis is placed on cytological diagnosis by routine screening methods and observation of various procedures relevant to non-gynecologic cytology. Upon completion, students should be able to demonstrate mastery of all diagnostic skills.

Prerequisites: Take all: CYT 220, CYT 224, CYT 226, CYT 236, and CYT 238

Corequisites: Take CYT 232 and CYT 234

CYT 232. Clinical Cytology Practicum. 1.0 Credit. Class-0.0.

Clinical-3.0. Lab-0.0. Work-0.0

This course provides supervised clinical experience in a variety of clinical settings. Emphasis is placed on teamwork in the clinical setting with utilization of cytodiagnostic and cytopreparation skills. Upon completion, students should be able to function effectively as an entry-level cytotechnologist.

Prerequisites: Take all: CYT 220, CYT 224, CYT 226, CYT 236, and CYT 238

Corequisites: Take CYT 230 and CYT 234

CYT 234. Gynecological Cytology Clinical Practicum II. 3.0 Credits.

Class-0.0. Clinical-9.0. Lab-0.0. Work-0.0

This course provides supervised clinical experience in gynecologic cytology. Emphasis is placed on cytological diagnosis by routine screening methods and observation of various procedures relevant to gynecologic cytology. Upon completion, students should be able to demonstrate mastery of all diagnostic skills.

Prerequisites: Take all: CYT 220, CYT 224, CYT 226, CYT 236, and CYT 238

Corequisites: Take CYT 230 and CYT 232

CYT 236. Cytology Literature Review. 1.0 Credit. Class-1.0. Clinical-0.0.

Lab-0.0. Work-0.0

This course covers the review and critique of medical literature with emphasis placed on topics in cytopathology. Topics include gynecologic and non-gynecologic cytology. Upon completion, students should be able to analyze, critique, and present scientific articles.

Prerequisites: Take all: CYT 210, CYT 212, CYT 214, CYT 216, and CYT 222

Corequisites: Take CYT 220, CYT 224, CYT 226 and CYT 238

CYT 238. Ancillary Studies in Cytopathology. 2.0 Credits. Class-2.0.

Clinical-0.0. Lab-0.0. Work-0.0

This course covers the fundamental principles and applications of special and immunohistochemical staining, as well as the principles and applications of molecular testing as they relate to the cytopathology laboratory. Emphasis is placed on the types of special stains used in cytopathology, on identifying positive and negative staining results, and on the application of molecular testing in cytopathology. Upon completion, students should be able to understand the application and interpretation of various special and immunohistochemical stains, and understand the various molecular tests available for use in cytopathology.

Prerequisites: Take all: CYT 210, CYT 212, CYT 214, CYT 216, and CYT 222

Corequisites: Take CYT 220, CYT 224, CYT 226 and CYT 236