

# Clinical and Diagnostic Sciences

The Department of Clinical and Diagnostic Sciences is comprised of academic programs essential to today's healthcare system. Our programs provide training for future health care professionals in a variety of disciplines ranging from the diagnosis of illness and disease, the administration of advanced treatment therapies, to the performance of vital roles in surgical suites and in outpatient and inpatient healthcare settings. Graduates of our programs are well poised for a wide variety of job opportunities due to the outstanding education received at UAB. Current graduate program offerings include:

- **Biomedical and Health Sciences, M.S.**
- **Biotechnology, M.S., PhD and Biotechnology Regulatory Affairs Graduate Certificate**
- **Clinical Laboratory Science, M.S.**
- **Genetic Counseling, M.S.**
- **Health Physics, M.S.**
- **Industry Genetics and Genomics Graduate Certificate**
- **Nuclear Medicine and Molecular Imaging Sciences, M.S.**
- **Physician Assistant Studies, M.S.P.A.S.**

## Graduate Certificate in Industry Genomics and Genetics

### Program Information

The Industry Genetics and Genomics Graduate Online Certificate is designed to provide advanced skills and education that will prepare graduates for employment in genomic industries that focus on variant data and its interpretation. Advances in the application of genetics and genomics technology in clinical care to support the paradigm shift to personalized medicine has created a need for health care providers and genomics industry professionals to integrate genetics and genomic data with medicine. The certificate is intended to meet the educational needs for the current workforce in medical genetics and clinical laboratories for advanced analytical interpretation and applications related to genomics related topics.

The Industry Genetics and Genomics Certificate is designed to enable students to meet the following learning objectives upon completion of the certificate:

- Demonstrate advanced knowledge in the clinical applications of genetics and genomic technology to support the workforce demand in the genetics and genomics laboratory industry.
- Effectively utilize of genetics and genomics data in clinical care.
- Assess genomics technologies and determine appropriate use in the clinical genomics industry.
- Effectively integrate genomic and clinical knowledge with the legal, regulatory, marketing, and financial aspects of the clinical genomics industry.
- Demonstrate the ability to effectively apply of professional guidelines for genetic variant classification for clinical applications.

- Communicate effectively with clinical genomics laboratory personnel and work in teams within the clinical genomics laboratory, serve as a resource to clinicians to improve the utilization of genomics technology in clinical care.

- Apply genomic industry standards within a clinical laboratory setting through direct application.

### Essential Functions

The essential functions below extend beyond academic requirements for admission and are standards that all enrolled students must possess in order to successfully complete the graduate certificate.

- Communicate effectively and sensitively with members of the health care team.
- Possess the mental capacity for critical thinking including the ability to assimilate, analyze, synthesize, and integrate concepts and to problem solve in a timely fashion.
- Adapt to changing environments and function effectively under stress.

### Admission Requirements

- Baccalaureate degree from a regionally accredited institution.
- Applicants must meet all requirements of the UAB Graduate School.
- A minimum overall GPA of 3.0 from prior coursework.
- Pre-requisite coursework: an undergraduate course in genetics

Requirement	Fulfilled By:
Entry Term:	Summer Semester
Application Deadline:	March 1
Entrance Tests:	For international applicants from non-English speaking countries, scores for the Test of English as a Foreign Language (TOEFL) and the Test of Written English (TWE)

For detailed information, contact the Program Coordinator, Industry Genetics and Genomics Graduate Certificate, UAB, School of Health Professions, 1716 9th Avenue South, SHPB 444, Birmingham, AL 35294-1212

Telephone 205-975-4CDS (205-975-4237)

E-mail: [AskCDS@uab.edu](mailto:AskCDS@uab.edu)

## Courses

### CDS 505. Professional Skills Development. 1 Hour.

Development of professional behaviors and attitudes required for success in healthcare.

### CDS 560. Foodborne and Waterborne Outbreak Investigations. 3 Hours.

Analysis of different aspects (basic microbiology, epidemiological analysis, surveillance tools, regulations, environmental and laboratory testing) of foodborne and waterborne outbreak investigations.

### CDS 605. Survival Spanish for Health Professionals. 1 Hour.

Health care professionals will be introduced to basic vocabulary, useful questions and expressions in Spanish needed to communicate in practical health care situations. Students will participate in speaking exercises, dialogue, and role-play activities (field-specific scenarios).

**CDS 610. Research Design and Statistics. 3 Hours.**

This course will introduce the student to clinical research methods and review concepts involved in descriptive and inferential statistics. Topics covered include, overview of the research process, literature review, research hypothesis, research designs, sample selection, measurement methods, descriptive statistics, and inferential statistics.

**CDS 625. Analysis of Scientific Publications. 3 Hours.**

This course is designed to prepare students to critically evaluate medical/scientific literature and to write a master's level papers. The ability to critically analyze scientific publications will be incorporated into the process of making medical decisions.