

SYSTEMS GENOMICS (PHD)

The Institute for Systems Genomics offers a Doctor of Philosophy (Ph.D.) in Systems Genomics¹. A Ph.D. in Systems Genomics trains students to take leadership roles in basic research, clinical research, program management and consultation at the Ph.D. level in the areas of Genome Sciences and Personalized Genomic Medicine. Systems Genomics students will receive specialized training in one or more of the areas listed below.

¹ Prior to submitting an application to this program, interested applicants should contact the Systems Genomics program administrator.

Integrated Life Sciences

Mechanisms of inheritance; genetics and genomics of human disease; stem cell biology; molecular biology including genomic technology; neurobiology and behavioral genetics and genomics.

Integrated Mathematics, Statistics and Computer Science

Computational methods in systems biology; bioinformatics analysis of high-throughput data; such as Next-Generation Sequencing (NGS) or mass spectrometry data; facility with data bases relevant to systems genomics and network biology.

Integrated Personalized Health Care and Ethical, Legal and Social Implications (ELSI)

Interdisciplinary competency in human genomic diagnostics, laboratory diagnostics, health care ethics, and regulatory issues in the clinical laboratory.

Requirements for Ph.D. in Systems Genomics

Except in special cases, Ph.D. candidates will complete required coursework within the first two years of enrollment in the program. The first year of coursework will focus on "Foundations of Systems Genomics." The second year will focus on "Advanced Topics in Systems Genomics." Specific course requirements are determined by the student's Advisory Committee consistent with the minimum requirements specified by the Graduate School. The Ph.D. in Systems Genomics does not have a related area or foreign language requirement, unless one is specified by the Advisory Committee.