Quantitative and Computational Training Opportunities

The major focus in quantitative science is distributed across the University of Chicago, and our enrichment in the Biological Sciences Division includes the Grossman Institute for Neuroscience, Quantitative Biology and Human Behavior, the Computation Institute (CI), the Center for Data Intensive Science (CDIS), Center for Research Informatics (CRI). Classes listed here are taken from across the University.

This page provides information regarding classes taught at the University relating to

- General Quantitative Background
- Computation/Programming
- Dynamical and Stochastic Systems
- Inference (Models and Data)
- Complex Systems and Systems Biology
- Scientific Computing
- Theory, Computation and Statistical Inference

Classes in General Quantitative Background

HGEN 47400	Introduction to Probability and Statistics for Geneticists	100
MPHY 34900	Mathematics for Medical Physics	100
PBHS 32100	Introduction to Biostatistics	100
PBHS 32400	Applied Regression Analysis	100
PBHS 32700	Biostatistical Methods	100
PBHS 33500	Statistical Applications	100
STAT 24400	Statistical Theory and Methods I	100

Classes in Computation/Programming

ECEV 32000	Computing Skills for Biologists	100
STAT 37810 & STAT 37820	Statistical Computing A and Statistical Computing B	100

Classes in Dynamical and Stochastic Systems

CPNS 31000	Mathematical Methods for Biological Sciences I	100
CPNS 31100	Mathematical Methods for Biological Sciences II	100
MPHY 39600	Image Processing/Computer Vision	100

Classes in Inference (Models and Data)

GEOS 26100	Phylogenetics and the Fossil Record	100
GEOS 35100	Data Analysis for the Geophysical Sciences	100
GEOS 36000	Morphometrics	100
GEOS 36100	Phylogenetics and the Fossil Record	100
HGEN 48600	Fundamentals of Computational Biology: Models and Inference	100
PBHS 32600	Analysis of Categorical Data	100
PBHS 33300	Applied Longitudinal Data Analysis	100
PBHS 33400	Multilevel Modeling	100
PBHS 43010	Applied Bayesian Modeling and Inference	100
PBHS 43201	Introduction to Causal Inference	100

Courses in Complex Systems and Systems Biology

HGEN 47300	Genomics and Systems Biology	100

Courses in Scientific Computing

ECEV 32000	Computing Skills for Biologists	100
STAT 37601	Machine Learning and Large-Scale Data Analysis	100

Courses in Theory, computation and statistical inference in specific fields

CPNS 35510	Theoretical Neuroscience: Single Neuron Dynamics and Computation	100
CPNS 35520	Theoretical Neuroscience: Network Dynamics and Computation	100
CPNS 35600	Theoretical Neuroscience: Statistics and Information Theory	100
ECEV 35600	Principles of Population Genetics-1	100
ECEV 42800	Population Ecology	100
ECEV 42900	Theoretical Ecology	100
GEOG 38201	Intro to Geographic Information Systems	100
GEOG 38400	Intermediate GIS/Cartography	100
HGEN 46900	Human Variation and Disease	100
HGEN 47100	Introduction to Statistical Genetics	100
PBHS 32901	Introduction to Clinical Trials	100
PBHS 35100	Health Services Research Methods	100
STAT 35800	Statistical Applications	100
STAT 35500	Statistical Genetics	100
STAT 35700	Epidemiologic Methods	100