



SYSTEMS BIOLOGY

Systems Biology is the study of the complex biological, chemical, and physical processes that support living organisms. It employs quantitative and computational methods to understand and modify how the biochemical and genetic properties of cells affect our world, from the treatment of disease to the design of biofuels. It brings all your scientific, mathematical and computational skills to bear on the most fundamental questions of how life works.

The Virginia Tech Bachelor of Science in Systems Biology is designed to train students in the theoretical/computational tools and experimental methods. These are necessary to understand living organisms as systems of closely interacting parts of increasing complexity (genes, proteins, cells, tissues, organs). The bachelor's degree in Systems Biology at Virginia Tech is one of a handful of such programs in the U.S.

Careers in Systems Biology

- Genetics & Molecular Biology
- Pharmaceutical Sciences
- Biomedical Engineering
- Computational Biology
- Biomedical Sciences
- Precision Medicine
- Synthetic Biology
- Bioinformatics
- Biotechnology
- Microbiology

► Systems Biology minor is also available!

Core Requirements

SYSB

- Intro to Systems Biology
- Systems Biology of Genes & Proteins
- Network Dynamics & Cell Physiology
- Research Experience in Systems Biology
- Professionalism in Systems Biology



CHEM

- Survey of Organic Chemistry
- General Chemistry



BIOL

- Principles of Biology



MATH

- Elementary Linear Algebra
- Calculus of a Single Variable



PHYS

- Foundations of Physics



The student will also choose 12 credits from a list of restricted electives and 32 credits to meet the requirements for the College of Science and University Curriculum for Liberal Education.

<http://www.ais.science.vt.edu/>