

# Computational Biology Major

## What Is Computational Biology?

In the age of big data, biologists must collect, analyze and draw conclusions from large amounts of biological information. Computational biology meets this need. It uses computer algorithms and statistical models to process and interpret biological data and make predictions. This interdisciplinary field draws from biology, mathematics and computer science to help solve the world's most pressing health concerns.

You can earn a bachelor's degree in computational biology at PC. Here you'll be mentored by your professors and pointed toward research and career opportunities. This program prepares you for graduate school and a fast-growing job market. Computational biology majors work in pharmaceutical and biotech industries, and are sought for both federal and private research projects.

## What You'll Study as a Computational Biology Major

If you're strong in STEM and have a knack for recognizing patterns, computational biology may be the degree for you. Through coursework, guided research and seminar programs, you'll hone skills in analyzing data, calculating statistics and scientific writing.

Coursework for the major totals 53-54 hours. The curriculum allows you to explore a variety of academic disciplines. You'll take two computational biology courses including Bioinformatics Algorithms, which covers topics like DNA sequencing and gene prediction. The curriculum includes five biology classes and labs, including Genetics and Organismal Biology, and two General Chemistry classes and labs. Data Analysis and Statistical Computing is one of your three math courses, along with two business administration courses in data analytics. You also get to choose two electives, such as Biochemistry or Data Analytics and Numerical Modeling. The program culminates in a senior capstone project based on your original research and analysis. If eligible, you may also conduct an honors project, which earns you marks of distinction on your transcript and diploma.

## Student Experiences

No matter your major, at PC you'll have a number of opportunities to learn and grow outside of the classroom.

- **Studying abroad.** PC offers programs through which you may study abroad for a summer, semester or an entire year. Trips to places like Turkey, Nepal, China, Ireland, Egypt, Israel and Spain provide immersive learning experiences.
- **Summer Fellows Program.** You can work together with your professors on a summer project and receive a stipend for participating in the program.
- **Independent research.** You can conduct independent research during the regular academic year on a topic of your choice.
- **Internships.** An internship provides you with hands-on experience in a position where computational biology is the focus. It can serve as a means to fulfill general education credit and/or as a means to explore career options.

In addition to these campuswide opportunities, other options are available to you as a computational biology student.

- **Research and publication.** You can join ongoing research projects or even propose new ones. These open potential opportunities to present findings at conferences and publish your results in scientific journals.
- **Student organization.** You can participate in the regional student branch of the International Society for Computational Biology. As part of this group, you can present research, network with students and faculty, and learn about career opportunities.

## Career Outcomes

Employment prospects are extremely good for computational biology majors. In fact, the field is growing so rapidly that job opportunities are outgrowing the number of qualified applicants. Pharmacy, genomics, genetics, and biotechnology research and development are just some of the degree's many career tracks.

According to [PayScale](#), graduates with a bachelor's degree in computational biology earn an average salary of \$80,000, as of January 2020. Adding a [master's](#) degree in the field boosts that average to \$100,000. Common related job titles are bioinformatician, data engineer and clinical data analyst.

As a computational biology major, your understanding of biology, mathematics, analytics and programming will distinguish you in the labor pool. You may choose a career in biomedical research, focused on treating cancer or drug resistance. Or you may work with tech companies like Google – which employs computational biologists in developing its [deep learning algorithms](#). Whatever your major, PC's solid liberal arts education equips you with skills for continued learning in your professional field.

## 4 Fast Facts

1. Google hires computational biology majors to help develop its deep learning algorithms.
2. In PC's computational biology program, you'll take courses like Genetics, Bioinformatics, and Data Analytics.
3. Dr. Robert Keskey '11 uses computational biology in studying the effects of diet on microbiome composition and surgical outcomes.
4. Computational biology is a rapidly-growing field, and job opportunities are outgrowing the number of qualified applicants.

## Meta Page Description

The computational biology major at Presbyterian College equips you with the data analysis skills you need in this fast growing job market.