University of Pittsburgh | Dietrich School

Life Sciences Research Certificate

www.Biology.Pitt.edu
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Overview

The Life Sciences Research Certificate program includes four terms of inquiry-based research in lab or field settings under faculty mentorship and overseen by an oversight committee. Before declaring the certificate, students must complete two terms of introductory biology courses, such as BIOSC 0150 and BIOSC 0160 Foundations of Biology 1 and 2, with a letter grade of C or better. Students must also have completed two credits of faculty-mentored research and provide a letter of support from the faculty mentor, and they must have a cumulative GPA of not lower than 2.75 after the research has been completed. Students must apply and be accepted to the program at www.Biology.Pitt.edu/Undergraduate/ResCert before beginning or declaring this certificate.

The certificate program requires at least 20 credits, described as follows. Satisfactory completion of the certificate satisfies the Dietrich School of Arts and Sciences requirement of a related area.

Research courses

Students must complete three additional terms of research, of a total of at least eight credits in research courses. The final two terms of research must be with the same faculty mentor. Research courses include:
BIOSC 1903 Undergraduate Research
BIOSC 1904 Undergraduate Honors Research
NROSCI 1901 Independent Study
NROSCI 1961 Thesis Research

Quantitative skills courses

Select three courses from the following list
BIOSC 1545 The Mathematics of Biology
MATH 0220 Analytical Geometry and Calculus 1
MATH 0230 Analytical Geometry and Calculus 2
MATH 0280 Introduction to Matrices & Linear Algebra
MATH 0290 Applied Differential Equations
MATH 1380 Math Biology
STAT 1000 Applied Statistical Methods
STAT 1221 Applied Regression
STAT 1211 Applied Categorical Data Analysis
STAT 1231 Applied Experimental Design
STAT 1241 Applied Sampling
STAT 1311 Applied Multivariate Analysis
STAT 1321 Applied Time Series
BIOST 2041 Introduction to Statistical Reasoning
BIOST 2011 Principles of Statistical Reasoning
BIOST 2012 Bayesian and Empirical Bayes Statistics

History and Philosophy of Science courses

Select one course from the following list
HPS 0427 Myth and Science
HPS 0437 Darwinism and its Critics
HPS 0430 Galileo and Creation of Modern Science
HPS 0515/HIST 0089 Magic, Medicine, & Science
HPS 0611 Principles of Scientific Reasoning
HPS 1620 Philosophy of Biology
HPS 1625 Philosophy of Medicine
HPS 1508 Classics in the History of Science
HPS 1653 Introduction to Philosophy of Science
HPS 1670 Philosophy of Neuroscience
HPS 1800 Special Topics in History and Philosophy of Science

Research methods courses

Select two of the following courses
BIOSC 1906 Research Methods: Communication in Life Sciences Research
BIOSC 1907 Research Methods: Under the Hood of Life Sciences Research
NROSCI 1014 **or** NROSCI 2014 Speaking of Science
NROSCI 1410 **or** NROSCI 2410 Translating Neuroscience

Additional requirements

Additional requirements include pre-planning and reporting each term, presenting research, writing a final research paper, and maintaining a research portfolio. Visit the certificate's Web page at www.Biology.Pitt.edu/Undergraduate/ResCert for more details.

Grade Requirements

A minimum GPA of 2.0 is required in each course that counts toward the certificate.

Satisfactory/No Credit Option

No course that counts toward this certificate may be taken on the S/NC basis.