

Engineering Foundations



WASHINGTON
& JEFFERSON
COLLEGE

The Engineering Foundations minor **prepares students for careers and future study in engineering and applied sciences** by giving them a set of **foundational skills and competencies related to math, physics, and other sciences**. This program is designed for those who have broad interests and want to keep their options open for a **master's or Ph.D. in Engineering after college**, providing a **foundational set of skills** typically required by engineering schools.

Minor Requirements

Introductory Physics (PHY 101) or
General Physics (PHY 107)
General Physics (PHY 108)
Calculus I (MTH 151)
Calculus II (MTH 152)
Mathematical Methods for the Physical
Sciences (PHY 250)
Multivariable Calculus (MTH 208)
Two electives, at least one from outside
the student's major

Engineering Foundations is open to non-physics majors and minors interested in studying intellectual interests in fields such as Chemistry, Biology, and Computer Science, with the intention of pursuing engineering after W&J. Students who are focused on Engineering from the start should consult the Dual Degree (3+2) program sheet. Physics majors and minors are already well prepared for such fields.

Electives

- Biochemistry (BCH 333)
- Foundations in Biology- Cell and Molecular Biology (BIO 121)
- Foundations in Biology: Organismal Biology (BIO 131)
- Organic Chemistry: Structure & Fundamentals (CHM 160)
- Chemical Principles (CHM 260)
- Object-Oriented Programming (CIS 220)
- Probability and Statistics (MTH 205)
- Differential Equations (MTH 308)
- Classical Mechanics (PHY 319)
- Electronics (PHY 322)
- The combination of Introduction to Experimental Techniques (PHY 219) and Introduction to Computation for the Physical Sciences (PHY 220)

Program Director

Cory Christenson, Ph.D.
cchristenson@washjeff.edu

Steering Committee

Sara Chamberlin, Ph.D.
schamberlin@washjeff.edu

Mike McCracken, Ph.D.
mmccracken@washjeff.edu

William Sheers, Ph.D.
wsheers@washjeff.edu



Program Website

washjeff.edu/engineering-foundations

Office of
Admission

60 S. Lincoln St.
Washington, PA 15301

admission@washjeff.edu
724-223-6025