PH.D IN BIOENGINEERING

A Ph.D. in Bioengineering student performs original research guided by an advisor and contributes to the knowledge base in the scientific community. Students may be involved in the design and regulatory approval of advanced medical technologies, as well as the manufacturing of health care products. Funding opportunities include research or teaching assistantships and fellowships. Lab rotations, funded as graduate research assistantships, are available for top Ph.D. candidates and offer a one-year opportunity for students to rotate through research labs within the School of Biomedical Engineering to find the ideal match of research project and advisor for their dissertation research.

The Ph.D. curriculum includes core courses in advanced mathematics and statistics, biomedical engineering, and biotechnology, as well as technical electives chosen from numerous engineering and life science courses. The curriculum is designed to provide flexibility and support the chosen research specialty. Students are required to complete a Ph.D. qualifying process, present a research plan in a preliminary exam, and defend completed research in a final exam/dissertation defense.

Students interested in graduate work should refer to the Graduate and Professional Bulletin (http://catalog.colostate.edu/general-catalog/graduate-bulletin/).

Strengths of the program include the following:

- Opportunities to develop major advances in the health care field.
- Nationally and internationally recognized faculty from over a dozen departments.
- Practical and academic experience with regulatory issues and approval processes with animal and human subjects.
- Conducting research in state-of-the-art facilities, including the nationally renowned Veterinary Teaching Hospital.
- Community of innovators on the cutting edge of research in cancer, orthopedics, cardiovascular disease, nanotechnology, biosensors, and more.

Learning Objectives

The Ph.D. program in bioengineering aims to produce graduates who:

1. Demonstrate technical mastery of the bioengineering disciplines of advanced engineering mathematics, biomolecular tools, bioengineering, physiology, and statistics.
2. Advance the theory and practice of bioengineering by making original research contributions that are both novel and significant.
3. Maintain high standards of scholarly excellence and responsible research conduct.
4. Demonstrate competency at assimilating information from other related fields of science and engineering to inform their intellectual pursuits and to expand the areas of application of their bioengineering expertise.
5. Effectively and professionally disseminate their research in the primary peer-reviewed and patent literature, and through technical conferences and symposia.