PROFESSIONAL SCIENCE MASTER'S IN BIOMANUFACTURING AND BIOTECHNOLOGY

The Professional Science Master's (PSM) in Biomanufacturing and Biotechnology is ideal for students who want to prepare for careers in a variety of industries that use bioprocesses, biomanufacturing, and biotechnology. The program is also designed to provide opportunities for professionals working in these industries to get the training they may need to advance in their careers. The program includes a balanced combination of bioscience, engineering, and business courses, appropriate for students with either a science or engineering background. The program culminates with an internship experience at a partnering organization, company, government entity, or non-profit, where the student puts into practice their bioscience, engineering, and business training.

The PSM in Biomanufacturing and Biotechnology is an affiliated Professional Science Master's (PSM) degree. Affiliation is administered by the Commission on Affiliation of PSM Programs (https://www.professionalsciencemasters.org/) (formerly named PSM National Office) to ensure a strong and distinctive PSM brand. The PSM is designed for students who are seeking a graduate degree in science or mathematics and understand the need for developing workplace skills valued by top employers.

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

Learning Objectives

Graduates will demonstrate:

1. A working knowledge of the core areas of biochemistry, including genetics, structural biology, cell biology, and molecular biology.
2. Ability to apply engineering problem solving and design skills to analyze, design, and optimize continuous and batch bioprocesses for production and purification of value-added products.
3. Professional leadership, communication, and strategic decision making skills.
4. Ability to integrate current bioscience, engineering, and business theory and techniques into their knowledge base and professional pursuits.
5. Ability to identify ethical issues in business and biotechnology, and understand the ethical implications of practicing their profession in society.