



MS in Chemical Engineering with a Concentration in Biotechnology and Biopharmaceuticals

Department of Chemical Engineering
Columbia University in the City of New York

This MS concentration focuses on essential features of biotechnology and biopharmaceuticals from a chemical engineering perspective, including upstream and downstream bioprocessing, protein engineering, genomic technologies, statistical experimental design, process analytical technology, product commercialization, small molecule manufacturing and scale up, solid state chemistry, particle engineering, and the regulatory requirements for biopharmaceutical products.

Students that wish to pursue an engineering career in life sciences manufacturing or research will gain both broad and deep knowledge, and may target employment within a robust biopharmaceutical, fine chemical, and cosmetic industry (J&J, Merck, BMS, Regeneron, Celgene, Pfizer, L'Oreal, IFF). In addition to these large companies, the metropolitan New York/NJ region also is home to many start-ups in this space, which is expected to grow in the future.

The program features hands on laboratory work within teaching labs, lecture-based courses (e.g., Solid State Chemistry in Pharmaceutical Development, Biochemical Engineering, Bioseparations, Protein Engineering), and opportunities for research with faculty members. In addition, students have a summer in which to pursue either research or internship experience.

For questions about the program please contact Prof. Aaron Moment

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<https://cheme.columbia.edu/ms-concentration-biotechnology-and-biopharmaceuticals>

