Chemical and life science engineering is a diverse engineering field that includes the development of chemicals, biochemical and biologics in a variety of applications including polymers, nanomaterials, pharmaceuticals, cleanfuels, environmental protection and medicine.

Researchers and students in the Department of Chemical and Life Science Engineering apply their talents to projects in focal areas of pharmaceutical engineering, stem cell engineering, nanotechnology and materials science. Independent and interdisciplinary efforts within the department take place across different academic units and shared facilities. Our collaborative ties with faculty in life sciences, biology, biochemistry, chemistry, medicine, dentistry, pharmacy and forensics have led to multi-disciplinary research projects. State-of-the-art facilities such as the Nanomaterials Core Characterization Facility, the Center for High Performance Computing, the Center for the Study of Biological Complexity and the Massey Cancer Center provide modern equipment and technical expertise.

“We have some very special, extremely self-motivated individuals who teach me new things each day.”

- B. Frank Gupton, Ph.D., Department Chair

Application Deadline: January 15
For Scholarship Consideration: November 15

VCU College of Engineering
601 West Main Street
Richmond, Virginia 23284-3068
(804) 828-3925
askengineering@vcu.edu

We bring the premier disciplines of chemical engineering and life sciences together to form a program distinct in the nation.”
Medicines for All
VCU has been awarded $25 million from the Bill & Melinda Gates Foundation to fund the Medicines for All Institute and increase access to drugs for HIV/AIDS, malaria, tuberculosis and other diseases around the world. The institute has developed an innovative model to reduce the cost of producing active pharmaceutical ingredients in medications.

Fighting Diseases
From groundbreaking research into the origins of Alzheimer’s disease to nanotechnology advances that could improve treatment for glaucoma patients, researchers are working to improve patient care through innovations. Researchers in VCU Engineering’s Pharmacy on Demand initiative are designing drug manufacturing processes that shrink the environmental and industrial footprint as they expand global access to drugs.

Nanotechnology
VCU Engineering’s award-winning faculty members study functional nano and biomaterials and polymer/inorganic nanomaterials. They develop micro- and nano-fabricated devices and seek to understand nanomaterial toxicity.

Degrees
B.S. in Chemical and Life Science Engineering
Through this undergraduate program, students will cultivate business and communication skills while they expand their knowledge of general science, mathematics and biological science. Course material focuses on the study of mass and energy balances, unit operations, transport phenomena, thermodynamics, reaction engineering, process control and process design and economics. This degree offers the option of a chemical engineering track or a life science engineering track.

M.S. and Ph.D. in Engineering
Students in the graduate programs will gain exposure to cutting-edge research practiced by faculty members and peers. Funding for a variety of research areas comes from public and private sector sources.

“We go beyond academia to make discoveries in healthcare a reality.”