

COLLEGE OF SCIENCE NANOMEDICINE

Bachelor of Science

Nanomedicine is the use of extremely small particles and devices (1-100 nanometers in size) in the diagnosis and treatment of disease. **It is a key enabling approach for revolutionary areas such as targeted drug delivery, regenerative medicine and personalized medicine.** Applications of nanomedicine already exist in cancer, kidney disease, and multiple sclerosis, with many more under development. Virginia Tech has the only Nanomedicine major in the United States.

Careers in Nanomedicine

Diagnostic Imaging
Internal Medicine
Medical Devices & Products
Nephrologist
Neurologist
Oncologist
Pharmaceutical Development
Pharmacology
& many others!

- ▶ Covers areas such as diagnostic devices, medical imaging tools, drug delivery vehicles, gene therapy, tissue engineering, and theranostics.
- ▶ Undergraduate research required as part of the degree.
- ▶ The Nanomedicine major provides a broad training across the life and physical sciences.
- ▶ Students will also choose 9 credits from a list of restricted electives in various fields (Biology, Chemistry, Neuroscience, Systems Biology, etc.).
- ▶ Global Nanomedicine sales were estimated at \$139 billion in 2016.

Course Offerings



NANOSCIENCE

Intro to Nanoscience
Nanoscience Research Seminar
Quantum Physics of Nanostructures
Nanoscience & the Environment
Nanoscale Synthesis, Fabrication, & Characterization
Nanomedicine



BIOLOGY

Principles of Biology
Cell and Molecular Biology



CHEMISTRY

General Chemistry
Organic Chemistry



PHYSICS

General Physics



MATH

Elementary Calculus