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 the treatment of cancer, kidney disease and multiple sclerosis, with many more under development. Virginia Tech has the only Nanomedicine major in the United States.

- Covers areas such as diagnostic devices, medical imaging tools, drug delivery vehicles, gene therapy, tissue engineering and theranostics.
- The Nanomedicine major provides broad training across the life and physical sciences.
- Global Nanomedicine sales were estimated at $139 billion in 2016.

**Careers in Nanomedicine**
- Diagnostic Imaging
- Internal Medicine
- Medical Devices & Products
- Pharmaceutical Development
- Nephrologist
- Neurologist
- Oncologist
- Pharmacology
- & many others

**Course Offerings**

**NANOSCIENCE**
- Intro to Nanoscience
- Nanoscience Research Seminar
- Undergraduate Research
- Quantum Physics of Nanostructures
- Nanoscience & the Environment
- Nanoscale Synthesis, Fabrication, & Characterization
- Professional Dissemination of Nanoscience Research
- Introduction to Nanomedicine
- Advanced Nanomaterials and Devices

**PHYS**
- General Physics and Lab

**CHEM**
- General Chemistry and Lab
- Organic Chemistry and Lab

**BIOL**
- Principles of Biology and Lab
- Cell & Molecular Biology for Engineers

**MATH**
- Elementary Calculus

Students will also choose 9 credits from a list of restricted electives in various fields (Biology, Chemistry, Neuroscience, Systems Biology, etc.)

8 credits of undergraduate research required as part of degree.

http://www.ais.science.vt.edu/