Nanomedicine's Two Paths:

With Chemistry Minor (Premed Schedule)

Eighth Semester Spring Year 4	Capstone, EIC, or Independent Project	Engr, Ethics & Society STS 402	Unrestricted Elective	Unrestricted Elective (2cr)	HSS Elective	Fulfills premed requirements
Seventh Semester Fall Year 4	Capstone, EIC, or Independent Project	Western Tech & Culture STS 401	Nanomed Engineering BIOM 490	Nanoscale Sci-Tech MSE 455	HSS Elective	
Sixth Semester Spring Year 3	Advanced Elective	3xx or higher CHEM course	BIOM 322 or BIOM 324	Unrestricted Elective	BIOL Lab II: BIOL 204	STS Elective 2xx, 3xx
Fifth Semester Fall Year 3	Advanced Math/CS Elective	Physical Chem CHEM 341 or CHEM 382	Biomaterials BIOM 414	Elec, Magn & Opt Apps MSE 367	BIOL Lab I: BIOL 203	HSS Elective
Fourth Semester Spring Year 2	Organic Chemistry II CHEM 242	Organic Chem II Lab CHEM 242L	Physiology II BIOM 202	Cell Molec BIOM 204	Materials Sci Investigat ns MSE 310	
Third Semester Fall Year 2	Organic Chemistry I CHEM 241	Organic Chem I Lab CHEM 241L	Physiology I BIOM 201	Ordinary Diff Equations APMA 213	Intro Physics II PHYS 241E	Intro Physics II Lab PHYS 241W
Second Semester Spring Year 1	Chemistry II CHEM 152	Chem II Lab CHEM 152L	Intro Comp Science CS 101	Multivariate Calculus APMA 212	Intro Materials MSE 209	Intro Physics I PHYS 142E / Intro Physics I Lab PHYS 142W
First Semester Fall Year 1	Chem I CHEM 151	Chem I Lab CHEM 151L	Intro to Engineering ENGR 162	Single Variable Calc APMA 111		Lang & Tech Society STS 101

**Not Premed? Replace BIOL 203-204 with a tech elective*

With Materials Science Minor

Eighth Semester Spring Year 4	Capstone, EIC, or Independent Project	Engr, Ethics & Society STS 402		Technical Elective	HSS Elective	Unrestricted Elective
Seventh Semester Fall Year 4	Capstone, EIC, or Independent Project	Western Tech & Culture STS 401	Nanomed Engineering BIOM 490	Nanoscale Sci-Tech MSE 455	HSS Elective	
Sixth Semester Spring Year 3	Advanced Math/CS Elective	Advanced Elective	BIOM 322 or BIOM 324	Structure of Materials MSE 306		Unrestricted Elective
Fifth Semester Fall Year 3	Physical Chem CHEM 341 or CHEM 382	Biomaterials BIOM 414	Elec, Magn & Opt Apps MSE 367	Thermo & Kinetics MSE 305	HSS Elective	*MSE 301 Corrosion is suggested as one of your tech electives*
Fourth Semester Spring Year 2	STS Elective 2xx, 3xx	Physiology II BIOM 202	Cell Molec BIOM 204	Materials Sci Investigat ns MSE 310	Technical Elective	Unrestricted Elective
Third Semester Fall Year 2	Organic Chemistry I CHEM 241	Organic Chem I Lab CHEM 241L	Physiology I BIOM 201		Ordinary Diff Equations APMA 213	Intro Physics II PHYS 241E / Intro Physics II Lab PHYS 241W
Second Semester Spring Year 1	Chemistry II CHEM 152	Chem II Lab CHEM 152L	Intro Comp Science CS 101	Intro Materials MSE 209	Multivariate Calculus APMA 212	Intro Physics I PHYS 142E / Intro Physics I Lab PHYS 142W
First Semester Fall Year 1	Chem I CHEM 151	Chem I Lab CHEM 151L	Intro to Engineering ENGR 162	Single Variable Calc APMA 111		Lang & Tech Society STS 101

What is Nanomedicine?

Nanomedicine, an offshoot of nanotechnology, refers to specific medical intervention for curing disease or repairing damaged tissues. A nanometer is one-billionth of a meter, too small to be seen with a conventional lab microscope. It is at this size scale that biological molecules and structures inside living cells operate. *The NIH RoadMap for Medical Research, Nanomedicine*

The Focus is on quantitative life sciences; the properties of nanoscale materials and how they function in biological systems; and clinical applications such as drug delivery, medical diagnosis, implants and tissue engineering.

Why Engineering Science?

With technology and society evolving at a rapid pace, a new discipline could become an established career field before it is institutionalized as a degree offering. Named plans of study like Nanomedicine allow faculty to leverage existing academic and research resources to create a leading edge, interdisciplinary education.

Can I work in a lab?

Nanomeds will be uniquely positioned to take part in some of the most exciting research at the University of Virginia.

And after graduation?

Nanomeds will be sought after by medical schools; graduate programs; the pharmaceutical, biotech and cosmetics industries; government agencies like the FDA, EPA, and USPTO; and consulting and other service firms.

Nanomedicine

An Engineering Science Named Program