Nanomedicine's Two Paths:

With Chemistry Minor (Premed)

Eighth Semester Spring Year 4	Capstone, EIC, or Independent Project	Engr, Ethics & Society STS 4020	Unrestricted Elective	Unrestricted Elective (2cr)	HSS Elective	
Seventh Semester Fall Year 4	Capstone, EIC, or Independent Project	Western Tech & Culture STS 4010	Nanomed Engineering BME 4890	Nanoscale Sci-Tech MSE 4055	HSS Elective	
Sixth Semester Spring Year 3	Advanced Elective	3xxx or higher CHEM course	BME 2220 or BME 2240	Unrestricted Elective	BIOL Lab II: BIOL 2040	STS Elective 2xxx, 3xxx
Fifth Semester Fall Year 3	Advanced Math/CS Elective	Physical Chem CHEM 3410 or CHEM 3820	Biomaterials BME 4414	Elec, Magn & Opt Apps MSE 3670	BIOL Lab I: BIOL 2030	HSS Elective
Fourth Semester Spring Year 2	Organic Chemistry II CHEM 2420	Organic Chem II Lab CHEM 2421	Physiology II BME 2102	Cell Molec BME 2104	Materials Sci Investigat'ns MSE 3101	
Third Semester Fall Year 2	Organic Chemistry I CHEM 2410	Organic Chem I Lab CHEM 2411	Physiology I BME 2101	Ordinary Diff Equations APMA 2130	Intro Physics II PHYS 2415	Intro Physics II Lab PHYS 2419
Second Semester Spring Year 1	Chemistry II CHEM 1620	Chem II Lab CHEM 1621	Intro Comp Science CS 1110	Multivariate Calculus APMA 2120	Intro Materi-als MSE 2090	Intro Physics I PHYS 1425	Intro Physics I Lab PHYS 1429
First Semester Fall Year 1	Chem I CHEM 1610	Chem I Lab CHEM 1611	Intro to En-gineering ENGR 1620	Single Vari-able Calc APMA 1110		Lang & Tech Society STS 1010

**Not Premed? Replace BIOL 2030-2040 with a tech elective*

With Materials Science Minor

Eighth Semester Spring Year 4	Capstone, EIC, or Independent Project	Engr, Ethics & Society STS 4020		Technical Elective	HSS Elective	Unrestricted Elective
Seventh Semester Fall Year 4	Capstone, EIC, or Independent Project	Western Tech & Culture STS 4010	Nanomed Engineering BME 4890	Nanoscale Sci-Tech MSE 4055	Biomaterials BME 4414	
Sixth Semester Spring Year 3	Advanced Math/CS Elective	Advanced Elective	BME 2220 or BME 2240	Thermo & Kinetics MSE 3050		Unrestricted Elective
Fifth Semester Fall Year 3	Physical Chem CHEM 3410 or CHEM 3820		Elec, Magn & Opt Apps MSE 3670	Structure of Materials MSE 3060	HSS Elective	HSS Elective
Fourth Semester Spring Year 2	STS Elective 2xxx, 3xxx	Physiology II BME 2102	Cell Molec BME 2104	Materials Sci Investigat'ns MSE 3101	Technical Elective	Unrestricted Elective
Third Semester Fall Year 2	Organic Chemistry I CHEM 2410	Organic Chem I Lab CHEM 2411	Physiology I BME 2101		Ordinary Diff Equations APMA 2130	Intro Physics II PHYS 2415	Intro Physics II Lab PHYS 2419
Second Semester Spring Year 1	Chemistry II CHEM 1620	Chem II Lab CHEM 1621	Intro Comp Science CS 1110	Intro Materi-als MSE 2090	Multivariate Calculus APMA 2120	Intro Physics I PHYS 1425	Intro Physics I Lab PHYS 1429
First Semester Fall Year 1	Chem I CHEM 1610	Chem I Lab CHEM 1611	Intro to En-gineering ENGR 1620	Single Vari-able Calc APMA 1110		Lang & Tech Society STS 1010

MSE 3080 Corrosion suggested as your advanced elective

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. *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