

Nanoengineering (MR): Biomedical Sciences in Nanoengineering Concentration

Degree Requirements

Code	Title	Hours	Counts towards
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Core Courses

12

Select four of the following courses:

MSE 500	Modern Concepts in Materials Science		
MSE 565	Introduction to Nanomaterials		
MSE 791	Nonferrous Alloys		
ECE/CHE 568	Conventional and Emerging Nanomanufacturing Techniques and Their Applications in Nanosystems		
ISE 718	Micro/Nano-Scale Fabrication and Manufacturing		
MAE 536	Micro/Nano Electromechanical Systems		

Code	Title	Hours	Counts towards
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Concentration Requirement Courses

12

Select a minimum of four of the following courses:

BME 590	Special Topics in Biomedical Engineering (Introduction to Nano-biomaterials)		
BME 540	Nanobiotechnology Processing, Characterization, and Applications		
BME 566	Polymeric Biomaterials Engineering		

CHE 596	Special Topics in Chemical Engineering (Colloid Science and Nanoscale Engineering)		
CHE 596	Special Topics in Chemical Engineering (Drug Delivery)		
ECE 542	Neural Networks		
ECE/BME 518	Wearable Biosensors and Microsystems		

Technical Electives 6

"Technical Electives" are approved in conjunction with the academic committee *

Total Hours 30

* "Technical Electives" may be ones in the MNAE program not used to satisfy other degree requirements or other technical courses approved by the Director of Graduate Program, Nanoengineering.

Full Professors

Charles M. Balik

Albena Ivanisevic

Thomas H. LaBean

Jagdish Narayan

Joseph B. Tracy

Daryoosh Vashaee

Yaroslava G. Yingling

Yong Zhu

Associate Professors

Rajeev Kumar Gupta

Assistant Professors

Kaveh Ahadi

Wenpei Gao

Srikanth Patala

Practice/Research/Teaching Professors

Claude Lewis Reynolds Jr.

Emeritus Faculty

Elizabeth Carol Dickey

Career Opportunities

Nanotechnological advancements have impacted every technological sector and ultimately may change aspects of our daily lives.

The development of these new technologies requires innovative nanoengineers who are invested in the fields of electronics, materials, chemical technology, biotechnology and biomedical engineering.

Graduates of the Master of Nanoengineering program are equipped with a solid foundation in nanoscience and nanotechnology necessary for the development of new products and procedures.

Potential careers associated with nanoengineering are as follows.

- Research and development engineer/scientist
- Biomedical engineer
- Materials engineer/scientist
- Bioinformatics
- Chemist
- Process engineer
- Materials analyst
- Professor
- Medical doctor
- PhD student