Nanoengineering (MR): Materials Science in Nanoengineering Concentration

Degree Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
<th>Counts towards</th>
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<tbody>
<tr>
<td>MSE 500</td>
<td>Modern Concepts in Materials Science</td>
<td></td>
<td>Core Courses</td>
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<tr>
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Select four of the following courses: 
MSE 500  Modern Concepts in Materials Science  3
MSE 565  Introduction to Nanomaterials  3
MSE 791  Nonferrous Alloys  3
ECE/CHE 568  Conventional and Emerging Nanomanufacturing Techniques and Their Applications in Nanosystems  3
ISE 718  Micro/Nano Fabrication and Manufacturing  3
MAE 536  Micro/Nano Electromechanical Systems  3

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Select a minimum of four of the following courses: 
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MSE 706  Phase Transformations and Kinetics  3
MSE 708  Thermodynamics Of Materials  3
MSE 710  Elements Of Crystalllography and Diffraction  3
MSE 715  Fundamentals Of Transmission Electron Microscopy  3
MSE 721  Nanoscale Simulations and Modeling  3

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