### Nanoengineering (MR): Nanoelectronics and Nanophotonics 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></td>
<td></td>
<td>12</td>
<td>Core Courses</td>
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Select four of the following courses:

- **MSE 500** Modern Concepts in Materials Science
- **MSE 565** Introduction to Nanomaterials
- **MSE 791**
- **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

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<tbody>
<tr>
<td>MSE 760</td>
<td>Materials Science in Processing of Semiconductor Devices</td>
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<td>Concentration Requirement Courses</td>
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<tr>
<td>MSE 771</td>
<td>Materials Science of Nanoelectronics</td>
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**Technical Electives**

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

**Total Hours**

- 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.

### 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