Name (please print): ____________________________________________________________  
(Student Number): __________________________  
(Please print): ____________________________________________________________  
(Primary Major): ____________________________________________________________  
(Major Completion Term): ___________  

**Required Courses (8 credits)**

- UN2600 Fund. of Nanoscale Sci. and Engr. (2)
- SS3801 Science, Technology & Society (3)
- Independent Study / Research / Co-op / Enterprise (3) *

List approved courses:

* must be nano-related; program approval required

**Electives (10 credits)**

Choose at least 6 credits *not in your major* (as defined by the course prefix) from among the Upper- and Lower-Level Electives below. Courses that are cross-listed with your major are considered as being in your major. A minimum of 6 credits below must be upper-level.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
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<tbody>
<tr>
<td>BE3800</td>
<td>Biomaterials II: Properties and Biological</td>
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<td></td>
<td>Interactions (3)</td>
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<tr>
<td>BE4300</td>
<td>Polymeric Biomaterials (3)</td>
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<tr>
<td>BE4330</td>
<td>Biomimetic Materials (3)</td>
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<tr>
<td>BE4335</td>
<td>Smart Polymers (3)</td>
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<tr>
<td>BE4700</td>
<td>Biosensors: Fabrication and Apps. (3)</td>
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<tr>
<td>BE4800</td>
<td>Biomaterials Interfaces (3)</td>
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<tr>
<td>BL4010</td>
<td>Biochemistry I (3)</td>
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<tr>
<td>BL4020</td>
<td>Biochemistry II (3)</td>
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<tr>
<td>BL4030</td>
<td>Molecular Biology (3)</td>
</tr>
<tr>
<td>BL4035</td>
<td>Bioimaging (2)*</td>
</tr>
<tr>
<td>BL4042</td>
<td>Scanning Electron Microscopy (2)*</td>
</tr>
<tr>
<td>BL4062</td>
<td>Transmission Electron Microscopy (2)*</td>
</tr>
<tr>
<td>CH3501</td>
<td>Physical Chem. For Env. &amp; Life Sci (2)</td>
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<tr>
<td>CH3520</td>
<td>Physical Chem. II – Molecular Structure (3)</td>
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<tr>
<td>CH4212</td>
<td>Instrumental Analysis (5)*</td>
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<tr>
<td>CH4310</td>
<td>Inorganic Chemistry I (3)</td>
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<tr>
<td>CH4320</td>
<td>Inorganic Chemistry II (3)</td>
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<tr>
<td>CH4560</td>
<td>Computational Chemistry (3)</td>
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**Upper-Level Electives (Continued)**

- CH/CN4610 Intro to Polymer Science (3) **OR**
- MY4600 Intro to Polymer Engineering (3)
- CH4620 Polymer Chemistry (3)
- CH4631/CM4631 Polymer Science Laboratory (2)
- CH4640 Synthesis of Nanoparticles (3)
- CH4720 Biomolecular Chemistry II (3)
- CM3974/ENT3974 Fuel Cell Fundamentals (1)
- CM4710 Biochemical Processes (3)
- CM4770 Analytic Microdevice Technologies (3)
- EE3290 Photonic Mat'l Devices and Apps (4)
- EE4231 Physical Electronics (3)
- EE4240 Introduction to MEMS (4)
- EE5470 Semiconductor Fabrication (3)
- EE5480 Advanced MEMS (4)
- EET3131 Instrumentation (3)
- FW3075 Plant Biotechnology (3)
- FW4099 Programming Skills for Bioinformatics (3)
- MEEM4405 Intro to Finite Element Method (3)
- MEEM4640 Micromanufacturing Processes (3)
- MEEM5130 Nanotechnology (3)
- MGT3800 Entrepreneurship (3)
- MY3200 Materials Characterization I (4)*
- MY3210 Materials Characterization II (4)*
- MY3500 Intro Semiconductor Materials & Devices (3)
- MY3701 Introduction to Semiconductor Materials Science & Engineering (2)
- MY4200 Intro to Scanning Electron Microscopy (2)
- MY4201 Introduction to SEM Lab (1)*
- MY4240 Introduction to MEMS (4)
- MY4292/PH4292 Light and Photonic Materials (3)
- MY4310 Practical Scanning Probe Microscopy (1)*
- MY4630 Contact Mechanics and Nanoindentation (3)
- MY5200 Adv Scanning Electron Microscopy (3)*
Interdisciplinary Minor in Nanoscale Science and Engineering
(Nanotechnology)

Upper-Level Electives (Continued)

- MY5550 Solid Surfaces (3)
- MY5580 Atomic Force Microscopy (2)*
- MY6100 Computational Materials Science & Engineering (3)

- PH3410 Quantum Physics I (3)
- PH3411 Quantum Physics II (3)
- PH5530 Selected Topics in Nanotechnology (2)
- SS3650 Intellectual Property Law Management (3)

**Additional Electives**

Additional electives may be selected from the courses below to bring the total elective credits to a minimum of 10.

- BL2100 Principles of Biochemistry (3)
- BL2200 Genetics (3)
- CH2420 Organic Chemistry II (3)
- PH2400 Univ. Physics IV: Waves & Modern Physics (3)

*Denotes an instrumentation-related course. Students are encouraged, though not required, to take at least one course related to instrumentation.

Other appropriate electives (including those at the graduate level) may be chosen with written permission by the Nanotechnology Minor faculty advisor. Graduate-level courses may also require permission of the department or instructor.

Credits Required = 18
Total Credits _______

Courses listed in this minor have the following prerequisites (shown in parenthesis). Concurrency is illustrated by the letter C: BE3800 (BE2700(C) and BE2800), BE4300 (BE3800), BE4330 (BE3350 and BE3800), BE4335 (BE3350 and BE3800), BE4700 (BE 3600 or (BE 3700 and BE 3701)), BE4800 (BE3800), BL2100 ((BL1040 or BL1020) and (CH1110 or CH1100)), BL2200 ((BL1020 or BL1040) and (BL2100 or CH4710)), BL4010 ((BL1020 or BL1040 or BL2100) and BL2100 and (CH2400 or CH2420) and CH2420), BL4020 (BL4010), BL4030 ((BL1020 or BL1040) and (BL2100 or CH4710)), BL4042 (4035), BL4062 (4035), CH3501 ((CH1100 or CH1110) and (CH1120 or CH1140) and (MA2150 or MA2160)), CH3520 (CH1120 and PH2200 C and (MA3150 or MA3160) and PH2200 C), CH4212 (CH2212 and CH3510 C and CH3511 C), CH4310 (CH3520), CH4320 (CH4310), CH4560 (CH3520), CH4610 (CH1120), CM3974 (CH1100 or CH1110), CM4610 (CH1120), CM4710 (CM3110 C), EE4231 (EE3130), EE5480 (EE4240 or MY4240), EET3353 (EET1411 or EET2220 or EET2311 or EE3010), ENG3974 (CH1100 or CH1110), MEEM4405 (MEEM3502 and (MA2320 or MA2321 or MA2330) and (MA3520 or MA3521 or MA3530 or MA3560)), MEEM4640 (MEEM3502 C), MET3131 (EET2311 or EET2221), MY3200 (MY2110), MY3210 (MY2100), MY4201 (MY4200 C), MY4600 (MY2100), MY5480 (EE4240 or MY4240), PH2400 (PH2200 or PH2260), PH3410 (PH2400 and (MA3520 or MA3521 or MA3530 or MA3560)), PH3411 (PH3410), SS3650 (UN 1015 and (UN 1025 or Modern Language - 3000 level or higher)), SS3801 (UN 1015 and (UN 1025 or Modern Language - 3000 level or higher))

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<tr>
<th>Student</th>
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<th>Department Advisor</th>
<th>Date</th>
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Academic Year 2016-17