

Name (please print): _____
(Last) (First) (Middle)

Student Number: _____ 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.*

• **Upper-Level Electives (minimum 6 credits)**

- _____ BE3800 Biomaterials II: Properties and Biological Interactions (3)
 _____ BE4300 Polymeric Biomaterials (3)
 _____ BE4330 Biomimetic Materials (3)
 _____ BE4335 Smart Polymers (3)
 _____ BE4700 Biosensors: Fabrication and Apps. (3)
 _____ BE4800 Biomaterials Interfaces (3)
 _____ BL4010 Biochemistry I (3)
 _____ BL4020 Biochemistry II (3)
 _____ BL4030 Molecular Biology (3)
 _____ BL4035 Bioimaging (2)*
 _____ BL4042 Scanning Electron Microscopy (2)*
 _____ BL4062 Transmission Electron Microscopy (2)*
 _____ CH3501 Physical Chem. For Env. & Life Sci (2)
 _____ CH3520 Physical Chem. II – Molecular Structure (3)
 _____ CH4212 Instrumental Analysis (5)*
 _____ CH4310 Inorganic Chemistry I (3)
 _____ CH4320 Inorganic Chemistry II (3)
 _____ CH4560 Computational Chemistry (3)

Upper-Level Electives (Continued)

- _____ CH/CM4610 Intro to Polymer Science (3) **OR**
 _____ MY4600 Intro to Polymer Engineering (3)
 _____ CH4620 /CM4620 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)

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.

• **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)

Credits Required = 18

Total Credits _____

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

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 BL2010) 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))

Student Date

Department Advisor Date