

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

Student Number: _____

Primary Major: _____ Expected Major Completion Term: _____

Required Courses (8 Credits)

- _____ UN2600 Fund. of Nanoscale Sci. and Tech. (2)
 - _____ SS3820 Ethical, Legal and Societal Implications
Nanotechnology (3)
 - _____ Independent Study / Research / Co-op / Enterprise (3) *
- List approved courses:
- _____
- _____

* must be nano-related; program approval required

Elective Courses

Choose at least two courses from this list of courses not in your major. Additional courses may be freely chosen from this list to bring the total number of credits from this list to at least 8, giving a total of at least 16 credits for the minor. (Remember that it is also a university requirement that you take at least 6 credits at the 3000-level or higher not required by your major.)

- _____ MGT3800 Entrepreneurship (3)
- _____ BE3500 Biomedical Materials (3)
- _____ BE4700 Biosensors: Fabrication and Apps. (3)
- _____ BL2100 Principles of Biochemistry (3)
- _____ BL2200 Genetics (3)
- _____ BL4010 Biochemistry I (3)
- _____ BL4020 Biochemistry II (3)
- _____ BL4030 Molecular Biology (3)
- _____ CH2400 Principles of Organic Chem. (4)
- _____ CH2420 Organic Chemistry II (3)
- _____ CH3500 **OR** CH3501 Physical Chem. For Env. & Life Sci (2)
- _____ CH3520 Physical Chem. II – Kinetics & Mol. Structure (3)
- _____ CH4310 Inorganic Chemistry I (3)
- _____ CH4320 Inorganic Chemistry II (3)
- _____ CH 4560 Computational Chemistry (3)

Elective Courses (Continued)

- _____ BE4300 Polymeric Biomaterials (3)
- _____ CH/CM4610 Intro to Polymer Science (3) **OR**
- _____ MY4600 Intro to Polymer Engineering (3)
- _____ CM4710 Biochemical Processes (3)
- _____ CM3974 Fuel Cell Fundamentals (1)
- _____ EE4231 Physical Electronics (3)
- _____ EE4240 Introduction to MEMS (4)
- _____ EE4240D Introduction to MEMS (4)
- _____ EE5470 Semiconductor Fabrication (3)
- _____ EE5480 Advanced MEMS (4)
- _____ EET3131 Instrumentation (3)
- _____ ENT3974 Fuel Cell Fundamentals (1)
- _____ FW3075 Plant Biotechnology (3)
- _____ FW4089 Bioinformatics (3)
- _____ MEEM4405 Intro to Finite Element Method (3)
- _____ MEEM4640 Micromanufacturing Processes (3)
- _____ MEEM5130 Nanotechnology (3)
- _____ MY3700 Electronic, Optical, and Magnetic Properties of
Materials (4) **OR**
- _____ MY3701 Introduction to Semiconductor Materials Science
& Engineering (2)
- _____ MY4200 Intro to Scanning Electron Microscopy (2)
- _____ MY4240 Introduction to MEMS (4)
- _____ MY4240D Introduction to MEMS (4)
- _____ MY4710 Photonic Materials & Devices (3)
- _____ PH5530 Selected Topics in Nanotechnology (2)
- _____ MY5470 Semiconductor Fabrication (3)
- _____ MY5480 Advanced MEMS (4)
- _____ MY5550 Solid Surfaces (3)
- _____ MY6100 Computational Materials Science and Engg (3)
- _____ PH2400 Univ. Physics IV: Waves & Modern Physics (3)
- _____ PH3410 Quantum Physics I (3)
- _____ PH3411 Quantum Physics II (3)
- _____ SS2800 **OR** SS3801 Science, Technology & Society (3)
- _____ BA/SS3650 Intellectual Property Law, Technology,
Society, and Innovation (3)

Credits Required = 16

Total Credits _____

Interdisciplinary Minor in Nanoscale Science and Engineering (Nanotechnology)

Students are encouraged, though not required, to take at least one course from this list of electives related to instrumentation:

- _____ BE3600 Biomedical Instrumentation (4)
- _____ BL4035 Bioimaging (2)
- _____ BL4042 Scanning Electron Microscopy of Biological Specimens (2)
- _____ BL 4062 Transmission Electron Microscopy of Biological Specimens (2)
- _____ CH4212 Instrumental Analysis (5)
- _____ ENT/MY4310 Practical Scanning Probe Microscopy (1)
- _____ MY3200 Materials Characterization I (4)
- _____ MY3210 Materials Characterization II (4)
- _____ MY4201 Introduction to Scanning Electron Microscopy Lab (1)
- _____ MY5200 Advanced Scanning Electron Microscopy (3)
- _____ MY5580 Atomic Force Microscopy (2)

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.

 Student Signature

 Date

 Academic Advisor

 Date

Courses listed in this minor have the following prerequisites (shown in parenthesis). Concurrency is illustrated by the letter C: MEEM4405 (MEEM3502 and (MA2320 or MA2321 or MA2330) and (MA3520 or MA3521 or MA3530 or MA3560)), PH3410 (PH2400 and (MA3520 or MA3521 or MA3530 or MA3560)), CM3974 (CH1100 or CH1110), CH4212 (CH2212 and CH3510 C and CH3511 C), ENG3974 (CH1100 or CH1110), CH3520 (CH1120 and PH2200 C and (MA3150 or MA3160) and PH2200 C), CH3500/3501 ((CH1100 or CH1110) and (CH1120 or CH1140) and (MA2150 or MA2160)), CH4610 (CH1120), EE4231 (EE3130), MY3200 (MY2110), MY3210 (MY2100), MY4201 (MY4200 C), CH2400 (CH1120), MET3131 (EET2311 or EET2221), MY3700 ((PH2200 or PH2260) and (MA3150 or MA3160) and (MA3520 or MA3530) or (MA2321 and MA3521)), MY3210 (MY3200), BL2100 ((BL1040 or BL1020) and (CH1110 or CH1100)), MEEM4640 (MEEM3502 C), CM4710 (CM3110 C), CH4310 (CH3520), EE5480 (EE4240 or MY4240), SS3650 (UN2002), BL4030 ((BL1020 or BL1040) and (BL2100 or CH4710)), BL4020 (BL4010), BL2200 ((BL1020 or BL1040) and (BL2100 or CH4710)), MY5480 (EE4240 or MY4240), PH3411 (PH3410), BL4010 ((BL1020 or BL1040 or BL2010) and BL2100 and (CH2400 or CH2420) and CH2420), EET3353 (EET1411 or EET2220 or EET2311 or EE3010), CH4560 (CH3520), CM4610 (CH1120), SS3820 (UN2002), BE3600 (EE3010 and BL2020 and BL2020), PH2400 (PH2200 or PH2260), CH4320 (CH4310), BE3500 ((BL1040 or BE2400) and MY2100 and (MEEM2150 C or ENG2120) C or MEEM2150) C), MY4600 (MY2100)

Information and Guidelines

- Minors require a minimum of 16 semester credit hours. Of these 16 credit hours no more than 6 credit hours may be 1000 or 2000 level courses. For minors exceeding 16 credits, the additional credits beyond 16 may be at any level. Each minor must include at least 6 credit hours of 3000 level or higher courses which are not required for a student's Major degree program except as free electives.
- Undergraduate requirements and special provisions for each Minor are listed and defined by each academic unit offering the Minor. Minors offered in cross-disciplinary areas must originate in a designated department, school, or multidisciplinary program as recognized by the University.
- Students may not take a Minor with the same title as their Major or Major Concentration.
- A minimum cumulative grade point average of 2.0 is required for courses in the Minor.
- It is recommended that students consider Minors as early as possible in their program of study. Students desiring a Minor should indicate their intent by filing a "Change/Addition of Major/Minor" form with the Office of Student Records and Registration no later than the first semester of their junior year.
- Students desiring a Minor must also file the applicable 'Minor Audit Form' with the academic advisor of the department offering the minor two semesters prior to completion of their associated undergraduate degree. The academic advisor will approve and forward the form to Degree Services. Once this Minor Audit Form is on file with Degree Services, any change of intent to pursue the minor must be reported directly to the Degree Services Office, 487-2395. Failure to do so could delay the awarding of the undergraduate degree.
- Any changes to the requirements, e.g. course substitutions, must be indicated and submitted to the Degree Services Office on a "Petition to Alter Degree Requirements" form by the academic advisor in the department offering the minor.