Application for a

**MINOR IN NANOSCIENCE**

The Minor in Nanoscience requires the completion of at least two units of course work in the topical areas described below:a,b Students planning the minor should contact Professor Burnham in the Physics Department.

**1. Structure of Molecules.**

At least one course (1/3 unit) in organic, inorganic, or physical chemistry.

**2. Function of Molecules.**  At least one course (1/3 unit) selected from the following list:

BB 1035     Introduction to Biotechnology

BB 2550     Cell Biology

BB 2920     Genetics

**3. Quantum Properties of Matter**.  At least one course (1/3 unit) selected from the following:

CH 3530        Quantum Chemistry

PH 1130         Modern Physics

PH 2501 or 2502  Photonics or Lasers

PH 3401 or 3402  Quantum Mechanics

**4. Atomic Properties of Matter.**  At least one course (1/3 unit) selected from the following list:

ES 2001         Introduction to Material Science

ME 4875        Introduction to Nanomaterials and Nanotechnology

PH 3502         Solid State Physics

**5. Nanoscale Fabrication and Characterization.**  (No minimum number of required courses.)

CHE/ME 2301 Nanobiotechnology Laboratory Experience

PH 2510         Atomic Force Microscopy

**6. Interdisciplinary Capstone Experience in Nanoscience**(1/3 unit).

The capstone experience for the nanoscience minor can be satisfied either by i) an independent study arranged for this purpose as the sixth course in the sequence, or ii) a small project during an existing course, also as the sixth course in the sequence.c If the second option is chosen, the student must arrange an interdisciplinary capstone experience with the instructor prior to the start of the course, and the instructor must agree to advise it. In either case, documentation of the capstone is required, prepared in consultation with the independent study advisor or instructor, which incorporates and ties together concepts learned in the nanoscience courses selected. After successful completion of the capstone, the instructor shall notify the student, Professor Burnham in the Physics Department, and the Registrar.

**NOTES**

1. In keeping with Institute-wide policy for minors, up to three courses may be double-counted for degree requirements (at most 1/3 unit of IQP), no course may be triple-counted, and the capstone experience must be done at the end of the sequence. The Major Qualifying Project (MQP) may not be counted toward activity for Minors.
2. Other courses, including graduate courses, may be used to satisfy the four topic areas with the approval of the Nanoscience Minor Committee.
3. A list of faculty who are willing to advise Nanoscience Capstones or ISPs is given at the bottom of <http://www.wpi.edu/academics/Depts/Physics/AFM/academic.html>.

Application for a

**MINOR IN NANOSCIENCE**

Last Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ First Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Student ID: **\_\_\_\_\_\_\_-\_\_\_\_\_\_-\_\_\_\_\_\_\_\_\_\_** Major Department: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Anticipated Graduation Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Email: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ @ wpi.edu

Instructions:

1. In the table below, list the six courses, their terms, and grades for courses that you completed.

If a course has not yet been successfully completed, leave the grade box blank.

1. In the shaded cells, list the independent-study project or course satisfying #6 on the reverse.
2. Check the boxes to indicate which courses are being double-counted for other degree requirements. Note that WPI policy requires that no more than one unit of course work can be double counted.
3. Obtain signature approval from three faculty members listed at the link given for Note c.
4. Submit the form to the Registrar’s Office *more than* two terms before you plan to graduate.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | COURSE NUMBER | COURSE TITLE | TERM | GRADE |  |
| Structure of molecules |  |  |  |  | ⬜ |
| Function of molecules |  |  |  |  | ⬜ |
| Quantum properties of matter |  |  |  |  | ⬜ |
| Atomic properties of matter |  |  |  |  | ⬜ |
| Unspecified |  |  |  |  | ⬜ |
| Capstone ISP or course |  |  |  |  | ⬜ |

CHECK IF DOUBLE COUNTED

Description of capstone experience (either the ISP or the small project within the context of an existing course):

Approval 1: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Dept: \_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_

PRINTED NAME, Signature

Approval 2: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Dept: \_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_

PRINTED NAME, Signature

Approval 3: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Dept: \_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_

PRINTED NAME, Signature