Physics 4610, 4620 and 4630: Physics Honors

Physics and Engineering Physics majors may graduate with a Departmental Honors designation on their diploma.

In A&S an honors designation is only achievable by the completion of an original piece of work. A senior thesis must be submitted, with typical lengths from 20 to 100 pages. An oral defense of the thesis also must be given to a committee of three faculty members. Typically the presentations last for 40 minutes.

In Engineering Physics an honors designation can be achieved by a high grade point average (greater than 3.8) or by writing an honors thesis and following the guidelines for A&S honors. It is possible to receive double honors in Engineering by having a high GPA and by writing and defending a thesis.

A faculty member from Physics or any of the associated departments may direct the Honors thesis. This includes APS, CASA, and JILA or even a local research lab such as NIST or NREL. The departmental Honors Chair will determine if an outside thesis advisor is an acceptable choice. The physics department Honors chair can play a helpful role in directing students towards potential advisors.

Each student’s Honors thesis committee is composed of three faculty members: two members from the Physics Department, one of whom must be a member of the Honors Council, and an external member from outside the Physics Department. If the student’s research mentor does not fall into these categories, the advisor can be added as a fourth member to the Honors thesis committee.

The level of Honors that a student receives depends on two factors, GPA and the quality of the senior Honors thesis. The following GPA cut-off acts as a guideline:

- **GPA > 3.8 Summa Cum Laude**
- **GPA > 3.5 Magna Cum Laude**
- **GPA > 3.3 Cum Laude**

However, a GPA of 4.0 with no Honors thesis will not earn an Honors designation, nor will a 4.0 GPA with a poor quality thesis earn the designation of Summa or any
designation at all if the quality is low enough. In addition, an especially high quality thesis may bump a student up from one designation to another. For instance, a student with a 3.4 and a very strong thesis may earn a Magna designation. Even a Summa designation is not impossible, but such jumps are very rare.

Due to the dependence of the Honors designation on GPA, the Physics Honors courses Phys4610, Phys4620, and Phys4630 are controlled enrollment courses. Students need to contact the Honors Chair (the teacher of these classes) to be admitted to the class. Typically, students will be enrolled only if their GPA lies within striking range of the 3.3 minimum. This is considered on a case-by-case basis. To graduate with an Honors designation students should enroll in at least one semester of honors, although two or three are more usual.

All students are required to attend a once a week hour-long Honors class. These classes are designed to help shepherd students through the Honors process. As part of these class sessions, students rotate through giving 20-minute oral presentations of their research to their peers.

It is expected that Honors students will spend between 6-10 hours per week working on their Honors research.