

## Departmental Honors in Physics

The Departmental Honors Program in Physics is available to superior students who wish to have a substantial research focus in their major. To earn Departmental Honors, a student must first apply to the program and be accepted, as described below. The student then carries out an intensive research program, writes a comprehensive scientific paper (thesis) describing the research, defends the thesis in an oral presentation, and makes an additional presentation of the project at a professional meeting and/or Senior Seminar. Students who successfully complete the requirements for departmental honors in physics will be so recognized on their academic records as well as in the commencement program. It is expected that work done in the departmental Honors Program will not replace the regular course work of the major but will be taken in addition to that work (except that Honors Thesis work may count toward the 2 credits of research required for the B.S.).

Students who wish to participate in the Departmental Honors Program in physics will apply for provisional acceptance to the program during the junior year, no later than the last day of classes of the spring semester of the junior year. The department will determine provisional acceptance based on: 1) recommendations from at least two Wittenberg faculty who have taught the student in physics courses at or above the 220 level and/or who have supervised the student in a relevant research or independent study project, 2) performance in physics courses (especially upper-level physics courses), 3) a grade point average of 3.5 or better both overall and in physics courses, and 4) completion of the Application Form, including a statement of purpose and a tentative research topic. In developing a tentative research topic, the student is encouraged to consult with the most probable supervising physics faculty member.

Upon acceptance, the student will select a supervising professor from the physics faculty. Under the direction of this supervising professor, the student will complete the equivalent of six (6) credits of directed research, or 4 credits of directed research and a related summer research experience judged by the department as being equivalent to at least 2 credits of directed research.

After a research topic has been determined by the student in consultation with the supervising professor, an additional two persons will be selected to serve on the Thesis Advisory Committee. At least one of these persons should be from outside the Physics Department. The function of this committee is to supervise and periodically assess the progress of the student's research. At this time, the Thesis Topic and Advisory Committee Acceptance Form should be completed and submitted to the department.

The first term of directed research (typically the spring semester of junior year or the following summer) is regarded as probationary. During this term the student, in conjunction with the supervising professor, will perform exploratory work to determine the feasibility of the proposed research project, acquire materials and learn the experimental and/or theoretical techniques needed to carry on the proposed research. Before the end of that time period, the student, under the direction of the supervising professor, shall prepare a written research proposal for presentation to the Thesis Advisory Committee no later than the end of the fourth week of the fall semester of senior year. If, at that time, the Thesis Advisory Committee agrees that this preparatory work has demonstrated a reasonable expectation of the investigation to produce fruitful results, the student

will be accepted as a Physics Departmental Honors Candidate. At least two full semesters of directed research will be required for completion of the project. The student must be registered for Honors Thesis 499 for at least one semester, including the semester in which the thesis is defended.

The results of this research will be evaluated by the Thesis Advisory Committee using all of the following criteria: 1) A senior thesis written, under the direction of the supervisory professor, in an acceptable journal style with one copy of the thesis submitted to each advisory committee member and the departmental chairperson. 2) An oral defense of the thesis.

After the evaluation has been completed, the Thesis Advisory Committee will assign a final grade to the honors project. The Thesis Advisory Committee will notify the Physics Department chair of the completion of the evaluation and the grade awarded. The chair will then instruct the Registrar to denote on the student's permanent transcript "Departmental Honors in Physics" completed and to record the appropriate grade. The Registrar will also list departmental honors with the student's name on the commencement program.

Application forms for the Departmental Honors Program in Physics are on the Physics Department website.