Physics - Graduate Programs

Objective

The objective of graduate work in physics is to prepare the student for continued professional and scholarly development as a physicist. The Physics MS Degree Programs are designed to give the student advanced training in all fundamental areas of physics through formal courses and the options of some degree of specialization or participation in original research in one of a variety of projects directed by the faculty.

The Doctor of Philosophy in Physics and Applied Physics Program combines the traditional elements of a science doctoral program with courses in specifically applied topics and internship in a technological environment. It is designed to produce highly trained professionals with a broad perspective of the subject which may prepare them equally well for careers in academia or government or industry. Current research in the department is predominantly in the areas of condensed matter physics, medical biophysics, astrophysics, space physics, and high-energy and nuclear physics.

Admission Criteria

For unconditional admission to the Master of Science program in physics, the candidate must satisfy the general admission requirements of the University, including a minimum undergraduate GPA of 3.0 on a 4.0 scale, as calculated by Graduate Admissions and favorable letters of recommendation from individuals able to assess the applicant's potential for success in a Masters program. In addition, the candidate should have satisfactorily completed at least 24 undergraduate hours of advanced physics and supporting courses and should have minimal GRE scores of 143 in Verbal and 151 in Quantitative.

Applicants not meeting the minimum requirements of the department or the University for either program may still be considered for unconditional acceptance if other information in their application indicates a reasonable probability of success in graduate studies in physics.

PROBATIONARY ADMISSION

If an applicant does not meet a majority of standards for unconditional admission outlined above, they may be considered for probationary admission after careful examination of their application materials. Probationary admission requires that the applicant receive a B or better in their first 12 hours of graduate coursework at UT Arlington.

DEFERRED AND PROVISIONAL ADMISSION

A deferred application decision may be granted when a file is incomplete or when a denied decision is not appropriate. An applicant unable to supply all required documentation prior to the admission deadline but who otherwise appears to meet admission requirements may be granted provisional admission.

DENIAL OF ADMISSION

A candidate may be denied admission if he or she have less than satisfactory performance on the admission criteria described above.

SCHOLARSHIPS AND FELLOWSHIPS

Students who are admitted will be eligible for available scholarship and/or fellowship support. Award of scholarships or fellowships will be based on consideration of the same criteria utilized in admission decisions. To be eligible, candidates must be new students coming to UT Arlington in the Fall semester, must have a GPA of 3.0 in their last 60 undergraduate credit hours plus any graduate credit hours as calculated by Graduate Admissions, and must be enrolled in a minimum of 6 hours of coursework in both long semesters to retain their fellowships.

Degree Requirements: Master of Science

For the Thesis Option, a minimum of 30 hours is required for the Master of Science degree, of which 24 hours, including a six hour thesis (minimum registration), will be in physics, and six hours may be selected from physics, mathematics, chemistry, earth & environmental sciences, biology, or engineering as approved by the Graduate Advisor.

For the Non-thesis Option, a minimum of 36 hours is required for the Master of Science degree. They will be in physics. But up to nine hours may be selected from mathematics, chemistry, earth & environmental sciences, biology, or engineering as approved by the Graduate Advisor. The student is required to pass an oral comprehensive exam in the last semester.

Admission Criteria

For unconditional admission to the Doctor of Philosophy program, an applicant must have a master's degree or 30 semester hours of graduate credit in physics or a related field and satisfy the general admission requirements of the University, including a minimum graduate coursework GPA of 3.0 on a 4.0 scale, as calculated by Graduate Admissions and favorable letters of recommendation from individuals able to assess the applicant's potential for success in a Ph.D. program. In addition, the applicant should have minimal GRE scores of 143 in Verbal and 151 in Quantitative.

Applicants not meeting the minimum requirements of the department or the University for either program may still be considered for unconditional acceptance if other information in their application indicates a reasonable probability of success in graduate studies in physics.

PROBATIONARY ADMISSION

If an applicant does not meet a majority of standards for unconditional admission outlined above, they may be considered for probationary admission after careful examination of their application materials. Probationary admission requires that the applicant receive a B or better in their first 12 hours of graduate coursework at UT Arlington.

DEFERRED AND PROVISIONAL ADMISSION

A deferred application decision may be granted when a file is incomplete or when a denied decision is not appropriate. An applicant unable to supply all required documentation prior to the admission deadline but who otherwise appears to meet admission requirements may be granted provisional admission.

DENIAL OF ADMISSION

A candidate may be denied admission if he or she have less than satisfactory performance on the admission criteria described above.

SCHOLARSHIPS AND FELLOWSHIPS

Students who are admitted will be eligible for available scholarship and/or fellowship support. Award of scholarships or fellowships will be based on consideration of the same criteria utilized in admission decisions. To be eligible, candidates must be new students coming to UT Arlington in the Fall semester, must have a GPA of 3.0 in their last 60 undergraduate credit hours plus any graduate credit hours as calculated by the Graduate School, and must be enrolled in a minimum of 6 hours of coursework in both long semesters to retain their fellowships.

Degree Requirements: Doctor of Philosophy

Each candidate must complete the following program requirements:

a. Demonstration of competence in a minimum of 39 credit hours of core courses chosen under the guidance of the supervising committee from the following (or from courses approved in advance by the Graduate Studies Committee):

Traditional Core Courses		
PHYS 5306	CLASSICAL MECHANICS	3
PHYS 5307	QUANTUM MECHANICS I	3
PHYS 5308	QUANTUM MECHANICS II	3
PHYS 5309	ELECTROMAGNETIC THEORY I	3
PHYS 5313	ELECTROMAGNETIC THEORY II	3
PHYS 5310	STATISTICAL MECHANICS	3
PHYS 5311	MATHEMATICAL METHODS IN PHYSICS I	3
PHYS 5312	MATHEMATICAL METHODS IN PHYSICS II	3
PHYS 5315	SOLID STATE I	3
PHYS 5316	SOLID STATE II	3
Applied Physics Core Courses		
PHYS 5314	ADVANCED OPTICS	3
PHYS 5319	MATHEMATICAL METHODS IN PHYSICS III	3
PHYS 6301	METHODS OF APPLIED PHYSICS I--ELECTRONICS	3
PHYS 6302	METHODS OF APPLIED PHYSICS II--COMPUTERS IN PHYSICS	3
PHYS 6303	METHODS OF APPLIED PHYSICS III--SPECTROSCOPY	3
Computer Science as required by the supervising committee		
Total Hours		**45**

b. Dissertation and additional research and elective courses chosen under the guidance of the supervising committee.