

Ph.D. in Applied Physics

Degree Requirements

Ph.D. in Applied Physics (with bachelor's degree)

Course Work ¹

PHYS 611	Adv Classical Mechanics	3
PHYS 621	Classical Electrodynamics	3
R755 631	Quantum Mechanics	3
PHYS 641	Statistical Mechanics	3
PHYS 721	Classical Electrodynamics II	3
PHYS 731	Quantum Mechanics II	3
Two physics courses		6
Electives		15
PHYS 790	Doct Dissertation & Res	36
PHYS 791	Doctoral Seminar ²	0
Total Credits		75

¹ No less than 12 credits must be at the 700 level.

² All doctoral students must enroll in each semester, including each semester they are enrolled in .

Ph.D. in Applied Physics (with master's degree)

(54 credits)

Course Work ¹

PHYS 611	Adv Classical Mechanics ²	3
PHYS 621	Classical Electrodynamics ²	3
PHYS 641	Statistical Mechanics ²	3
R755 631	Quantum Mechanics ²	3
PHYS 721	Classical Electrodynamics II	3
PHYS 731	Quantum Mechanics II	3
Electives		9
PHYS 790	Doct Dissertation & Res	36
PHYS 791	Doctoral Seminar ³	0
Total Credits		63

¹ No less than 12 credits must be at the 700 level.

² Can be replaced by other courses for students with M.S. degrees who have taken these courses in the master's program.

³ All doctoral students must enroll in PHYS 791 Doctoral Seminar each semester, including each semester they are enrolled in PHYS 790 Doct Dissertation & Res.

Qualifying Examination and Research Examination

The student must pass a written qualifying examination and oral research examination. The written qualifying examination is administered yearly to test general academic preparation and competence for research in applied physics. Within one year after passing the written qualifying examination, the student is required to pass the oral qualifying examination to achieve Ph.D. candidacy, in which the prospective Ph.D. candidate presents a preliminary research proposal for approval by the dissertation committee. The student will be allowed two attempts to pass the written or oral qualifying examination.

Dissertation and Defense

An oral presentation and defense of the doctoral dissertation is required. A five-member committee, chaired by the dissertation advisor, must approve the content and presentation of the dissertation research.