

# Ph.D. in Applied Physics

## 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.

## Degree Requirements

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

Code	Title	Credits
<b>Course Work <sup>1</sup></b>		<b>36</b>
PHYS 611	Adv Classical Mechanics	3
PHYS 621	Classical Electrodynamics	3
R755 631		3
PHYS 641	Statistical Mechanics	3
PHYS 721	Classical Electrodynamics II	3
PHYS 731	Quantum Mechanics II	3
Two additional 700 -level physics courses		6
Electives (Four 3-credit courses)		12
PHYS 791	Doctoral Seminar <sup>2</sup>	0

<sup>1</sup> No less than 12 credits must be at the 700 level.

<sup>2</sup> All doctoral students must enroll in each semester, including each semester they are enrolled in .

<sup>3</sup> PHYS 792B Pre-doctoral Research<sup>3</sup>

Students who pass the Qualifying Examination (QE) must then register in PHYS 792B every semester until they defend successfully the dissertation proposal

<sup>4</sup> PHYS 790A Doctoral Dissertation and Research<sup>4</sup>

Students who defend the dissertation proposal successfully must then register in PHYS 790A every semester until they complete all degree requirements

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

Code	Title	Credits
<b>Course Work <sup>1</sup></b>		<b>24</b>
PHYS 611	Adv Classical Mechanics <sup>5</sup>	3
PHYS 621	Classical Electrodynamics <sup>5</sup>	3
PHYS 641	Statistical Mechanics <sup>5</sup>	3
R755 631	<sup>5</sup>	3
PHYS 721	Classical Electrodynamics II <sup>5</sup>	3
PHYS 731	Quantum Mechanics II <sup>5</sup>	3
Two additional 700 -level physics courses		6
PHYS 791	Doctoral Seminar <sup>2</sup>	0

<sup>1</sup> No less than 12 credits must be at the 700 level.

<sup>2</sup> All doctoral students must enroll in the seminar course every semester they are enrolled in PHYS 792B or PHYS 790A.

<sup>3</sup> PHYS 792B Pre-doctoral Research<sup>3</sup>

Students who pass the Qualifying Examination (QE) must then register in PHYS 792B every semester until they defend successfully the dissertation proposal

<sup>4</sup> PHYS 790A Doctoral Dissertation and Research<sup>4</sup>

Students who defend the dissertation proposal successfully must then register in PHYS 790A every semester until they complete all degree requirements