

# Physics (MS)

## Master of Science Degree Requirements

### Thesis (Option A) Requirements

Code	Title	Hours	Counts towards
<b>Letter-Graded Courses</b>		<b>24</b>	
Select six PY 500-level / 700-level courses approved in conjunction with the academic committee <sup>1</sup>			
<b>Research Course</b>		<b>6</b>	
PY 695	Master's Thesis Research (Optional)		
<b>Total Hours</b>		<b>30</b>	

### Non-Thesis (Option B) Requirements

Code	Title	Hours	Counts towards
<b>Letter-Graded Courses</b>		<b>18</b>	
Select six PY 500-level / 700-level courses approved in conjunction with the academic committee <sup>1,2</sup>			
<b>Department Qualifying Exam</b>		<b>12</b>	
Students must pass a Department Qualifying Exam from the following courses:			
PY 721	Statistical Physics I		
PY 782	Quantum Mechanics II		
PY 783	Advanced Classical Mechanics I		
PY 785	Advanced Electricity and Magnetism I		
<b>Total Hours</b>		<b>30</b>	

<sup>1</sup> Excludes: PY 501 Quantum Physics I, PY 511 Mechanics I, and PY 514 Electromagnetism I.

<sup>2</sup> Students may opt to select a minor, by which three graded courses from other departments will be accepted as determined in conjunction with the academic committee.

## Accelerated Bachelor's/Master's Degree Requirements

The Accelerated Bachelors/Master's (ABM) degree program allows exceptional undergraduate students at NC State an opportunity to complete the requirements for both the Bachelor's and Master's degrees at an accelerated pace. These undergraduate students may double count up to 12 credits and obtain a non-thesis Master's degree in the same field within 12 months of completing the Bachelor's degree, or obtain a thesis-

based Master's degree in the same field within 18 months of completing the Bachelor's degree.

This degree program also provides an opportunity for the Directors of Graduate Programs (DGPs) at NC State to recruit rising juniors in their major to their graduate programs. However, permission to pursue an ABM degree program does not guarantee admission to the Graduate School. Admission is contingent on meeting eligibility requirements at the time of entering the graduate program.

## Faculty

### Professors

Harald Ade  
 David E. Aspnes  
 Robert J. Beichner  
 Jerzy Bernholc  
 John Michael Blondin  
 John D. Brown  
 Laura I. Clarke  
 Karen E. Daniels  
 William L. Ditto  
 Daniel B. Dougherty  
 Carla Frohlich  
 Robert Golub  
 Kenan Gundogdu  
 Hans D. Hallen  
 Paul R. Huffman  
 Chueng Ryong Ji  
 Sabre Kais  
 James P. Kneller  
 Gail C. McLaughlin  
 Lubos Mitas  
 Robert Riehn  
 Christopher M. Roland  
 Maria C. Sagui  
 Thomas M. Schaefer  
 John E. Thomas  
 Mithat Unsal  
 Keith R. Weninger  
 Albert R. Young

Matthew Piron Green  
Alexander Kemper  
Divine Philip Kumah  
Shuang Fang Lim  
Richard Leigh Longland  
Hong Wang  
Julio Monti Belmonte  
Rongmon Bordoloi  
Mary Williard Elting  
Sebastian Konig  
Sharonda Leblanc  
Katherine Jean Mack  
Vladimir Skokov  
Dali Sun  
Jason Russell Bochinski  
Kazimierz Borkowski  
Abay Dinku  
Daniel Jacob Doucette  
Brand Irving Fortner  
Keith Heyward  
Parminder Kaur  
John H. Kelley  
Hayen Leendert  
Kent Leung  
Wenchang Lu  
Vijaya Mehta  
Zodiac T. Webster  
Ruth W. Chabay  
Kwong T. Chung  
James W. Cook Jr.  
Stephen R. Cotanch  
William Robert Davis  
Donald C. Ellison  
Raymond Earl Fornes  
Christopher Robert Gould  
David G. Haase

Karen L. Johnston  
Fred Lado Jr.  
Jacqueline Krim  
George W. Parker III  
Richard R. Patty  
Stephen Reynolds  
Phillip J. Stiles

---

## Associate Professors

Paschalis Gkoupidenis  
Jun Liu  
Ian Roederer

---

## Assistant Professors

Weijian Chen  
Demitry Farfurnik  
Raja Ghosh  
Milena Jovanovic  
Xingcheng Lin  
Ruijuan Xu

---

## Teaching Professor

Aaron Titus

---

## Teaching Assistant Professors

Maya Kinley-Hanlon  
Kasey Wagoner

---

## Lecturer

Federico Portillo Chaves