# Physics (PhD)

## Degree Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
<th>Counts towards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Background Coursework</strong></td>
<td></td>
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</tr>
<tr>
<td>PY 781</td>
<td>Quantum Mechanics I</td>
<td></td>
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<td></td>
<td><strong>Core Courses</strong></td>
<td>12</td>
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<tr>
<td></td>
<td>Select four PY 700-level courses</td>
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<td></td>
<td>approved in conjunction with the academic</td>
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<tr>
<td></td>
<td>committee $^1$</td>
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<tr>
<td></td>
<td><strong>Qualifying Exams</strong></td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>PY 721</td>
<td>Statistical Physics I</td>
<td></td>
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<tr>
<td>PY 782</td>
<td>Quantum Mechanics II</td>
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<tr>
<td>PY 783</td>
<td>Advanced Classical Mechanics I</td>
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<tr>
<td>PY 785</td>
<td>Advanced Electricity and Magnetism I</td>
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<tr>
<td></td>
<td><strong>Elective Courses</strong></td>
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<td>“Elective Courses” may include PY</td>
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<td></td>
<td>500-level and 700-level courses, physics-</td>
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<td>related courses in other departments, or</td>
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<td>courses required for a minor</td>
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<tr>
<td></td>
<td><strong>Additional Courses</strong></td>
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<td></td>
<td><strong>Research Courses</strong></td>
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<tr>
<td>PY 890</td>
<td>Doctoral Preliminary Examination</td>
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<tr>
<td>PY 895</td>
<td>Doctoral Dissertation Research $^2$</td>
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<tr>
<td></td>
<td><strong>Dissertation</strong></td>
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<tr>
<td>PY 899</td>
<td>Doctoral Dissertation Preparation</td>
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</tbody>
</table>

Total Hours 72

$^1$ Excludes PY 781 & PY 785, but may include: PY 721 Statistical Physics I, PY 782 Quantum Mechanics II, PY 783 Advanced Classical Mechanics I.

$^2$ 42 credit hours of research are required for a PhD; however, only 24 are required for students with a MS.

## Faculty

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

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 Phillip 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

**Assistant Professor**

Xingcheng Lin

**Teaching Professor**

Aaron Titus

**Teaching Assistant Professor**

Kasey Wagoner

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**Associate Professor**

Ian Roederer