PhD in Physics

Admission Requirements
Applicants are considered on an individual basis. Complete transcripts of all undergraduate and any graduate work must be submitted. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

- **Baccalaureate Field** No restrictions. Prior academic work must include at least 20 semester hours of physics, including upper-level undergraduate electrodynamics, quantum mechanics, and classical mechanics.

- **Grade Point Average** At least 2.75/4.00 for the final 60 semester (90 quarter) hours of undergraduate study.

- **Tests Required** GRE General exam is required; GRE Physics subject exam is highly recommended, but not required.

- **Minimum English Competency Test Score**
  - TOEFL 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based); 60, with subscores of Reading 19, Listening 17, Writing 21 (New Paper-Based—after August 2018); 550 (Institutional Testing Paper-Based—prior to August 2018), OR,
  - IELTS 6.5, with subscores of 6.0 for all four subscores, OR,
  - PTE-Academic 54, with subscores of Reading 51, Listening 47, Speaking 53, and Writing 56.

- **Letters of Recommendation** Three required.

- **Personal Statement** Required.

- **Nondegree Applicants** Nondegree applicants must submit transcripts and a personal statement.

Degree Requirements
In addition to the Graduate College minimum requirements, students must meet the following program requirements:

- **Minimum Semester Hours Required** 96 from the baccalaureate.

- **Course Work** At least 36 hours must be in 500-level courses, other than PHYS 596 and PHYS 599.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>PHYS 501</td>
<td>Electrodynamics I</td>
</tr>
<tr>
<td>PHYS 502</td>
<td>Electrodynamics II</td>
</tr>
<tr>
<td>PHYS 511</td>
<td>Quantum Mechanics I</td>
</tr>
<tr>
<td>PHYS 512</td>
<td>Quantum Mechanics II</td>
</tr>
<tr>
<td>PHYS 561</td>
<td>Statistical Mechanics</td>
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<tr>
<td>PHYS 595</td>
<td>Graduate Seminar (five semesters)</td>
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Select one of the following sequences:

- PHYS 513 & PHYS 514 Quantum Field Theory I and Quantum Field Theory II
- PHYS 521 & PHYS 522 Molecular Physics and Laser Physics/Quantum Electronics
- PHYS 531 & PHYS 532 Solid State Physics I and Solid State Physics II
- PHYS 551 & PHYS 552 Elementary Particle Physics I and Elementary Particle Physics II

- **Examinations**
- **Departmental Qualifying Examination**: Required.
- **Preliminary Examination**: Required.

- **Dissertation** Required.

- **Other Requirements** Each student must serve as a teaching assistant for at least two semesters.