COMPUTER AND INFORMATION SCIENCE, PHD

The Doctoral Program (Ph.D.) in Computer and Information Science (CIS) welcomes candidates with strong training in any of the disciplines related to modern information processing, with an emphasis on computer science and mathematics. Research and teaching form the essence of our doctoral program. Our curriculum is designed to develop the intellectual skills essential for the rapidly changing character of research and to meet the demands of academe and industry. Students develop their own advanced study focus, working with faculty mentors on topics ranging from the core computer science discipline to diverse scholarly interactions within the School of Engineering and the University.

For more information: http://www.cis.upenn.edu/prospective-students/graduate/phd.php

View the University's Academic Rules for PhD Programs (http://catalog.upenn.edu/pennbook/academic-rules-phd/).

Required Courses

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tr>
<td>EAS 9000</td>
<td>Responsible Conduct for Research in Engineering</td>
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Core Courses

Select four of the following:

- CIS 5000 Software Foundations
- CIS 5020 Analysis of Algorithms
- CIS 5050 Software Systems
- CIS 5110 Theory of Computation
- CIS 5200 Machine Learning
- CIS 5480 Operating Systems Design and Implementation
- CIS 5500 Database and Information Systems
- CIS 5710 Computer Organization and Design

Teaching Practicum

- CIS 8950 Teaching Practicum

Elective Requirement

Select four approved 5000-8000 level University courses

Independent Study

Select 4 courses

Research

Select 2 required courses related to the Dissertation Research area plus 2 in an unrelated area

Dissertation Status

- CIS 9950 Dissertation

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Two courses can be waived for students entering with a Master's degree. Advisor and Graduate Chair approval is required for non-CIS courses.