

## Synopsis of Ph.D. Requirements

### Program Requirements

- 66 units overall
- 36 units of course work in major
- 9-12 units of course work in minor
- 18 units of dissertation
- Qualifying Examination (Portfolio)
- Comprehensive Examination (Thesis Proposal)
- Final Examination (Thesis Defense)

### Major Course Requirements

- 4 core courses in 3 areas, and another 2 core courses in any area

<p><b><u>Computing Systems</u></b></p> <ul style="list-style-type: none"> <li>• 525 Principles of Computer Networking</li> <li>• 552 Advanced Operating Systems</li> <li>• 553 Principles of Compilation</li> <li>• 576 Computer Architecture</li> </ul>	<p><b><u>Software Systems</u></b></p> <ul style="list-style-type: none"> <li>• 520 Principles of Programming Languages</li> <li>• 522 Parallel and Distributed Programming</li> <li>• 560 Database Systems Implementation</li> </ul>
<p><b><u>Theory and Algorithms</u></b></p> <ul style="list-style-type: none"> <li>• 545 Design and Analysis of Algorithms</li> <li>• 573 Theory of Computation</li> </ul>	<p><b><u>Applications</u></b></p> <ul style="list-style-type: none"> <li>• 533 Computer Graphics</li> <li>• 537 Computational Geometry</li> </ul>
<p><b><u>Artificial Intelligence</u></b></p> <ul style="list-style-type: none"> <li>• 577 Introduction to Computer Vision</li> </ul>	

- 6 units in CS graduate courses
- 12 units of research courses, typically 695C
- 1 units of research seminars, 695A

### Minor Course Requirements

- 9 units for internal minor or 12 units for an external minor, approved by the minor department

### Dissertation

- A scholarly contribution to the discipline approved and defended before the Doctoral Committee.
- 18 units of dissertation credit earned during research

### Qualifying Examination (Portfolio)

- Complete the portfolio requirements and submit the portfolio for examination
- Minor qualifier may be waived by the minor department

### Comprehensive Examination (Thesis Proposal)

- Written part consists of the thesis proposal.
- Oral thesis proposal given to the Doctoral Committee of at least three Major and one Minor professors

### Final Examination (Thesis Defense)

- Oral examination in defense of the completed dissertation presented to the Doctoral Committee