

# Ph.D. in Computer Science

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## Course Requirements

For students entering the program with a Master's degree in Computer Science or related areas, 12-21 credits at the 600 and 700 level (at least 12 credits at the 700 level) are required. The default requirement is 21 credits, but waivers for 600 level courses may be determined in consultation with and written approval by the PhD committee based on the student's prior background in the three areas of the qualifying examinations. At most 6 credits can be Independent Study in Computer Science (CS 725 and/or CS 726). If a student takes two Independent Study courses, then they should be done with two different professors. At least 6 credits must be for lecture-based courses at the 700 level.

For students entering the program without a Master's degree in Computer Science or related areas, 36 credits at the 600 and 700 level. At least 12 credits must be at the 700 level, and out of those at most 6 credits can be Independent Study in Computer Science (CS 725 and/or CS 726). If a student takes two Independent Studies, then they should be done with two different professors. At least 6 credits must be for lecture-based courses at the 700 level.

## Doctoral Dissertation Credits

For students who were admitted in the program in the Fall 2015 semester or after, the rules are described at: <http://www5.njit.edu/graduatestudies/content/new-phd-credit-requirements/>

For students who were admitted in the program before the Fall 2015 semester, students must complete 30 credits of CS 790. A maximum of 6 credits of CS 792 Pre-Doctoral Research may be used toward the CS 790 requirement.

## CS 791: Doctoral Seminar

Full-time students are required to enroll in CS 791 every semester. *Full-time PhD students are required to attend 2/3 of the weekly Wednesday departmental seminars.*

## Qualifying Examinations

All PhD students are required to take qualifying examinations in three areas.

Code	Title	Credits
<b>One examination is in the combined area of:</b>		
CS 610	Data Structures and Algorithms	
CS 611	Introduction to Computability and Complexity	
<b>Two examinations are in the following areas:</b>		
CS 630	Operating System Design	
CS 631	Data Management System Design	
CS 634	Data Mining	
CS 656	Internet and Higher-Layer Protocols	
CS 659	Image Processing and Analysis	
CS 670	Artificial Intelligence	
CS 675	Machine Learning	

PhD students are allowed to take up to four qualifying examinations and are required to pass at least three out of the four (the combined CS 610 and CS 611 examination must be among the three examinations the students pass). If they fall short of the three examinations in the first year, then they must make up the number of missing examinations the second year and may take one more examination than the number they are required to pass.