

**PROGRAM OF STUDY — PhD IN COMPUTER SCIENCE  
WESTERN MICHIGAN UNIVERSITY**

Last Name	First	Middle Initial	WIN
Local Address: Street	City	State	Zip
Local Phone	Email Address	Admission date	Expected date of graduation

In preparation for the review of your initial Program of Study plan:

1. Obtain and review the contents of the *Western Michigan University Graduate Catalog*.
2. Read the department's manual *Doctoral Degree in Computer Science* in detail.
3. Prepare as much as you can of a trial version of this *Program of Study* form.

Prerequisite requirements or any admission conditions	Term (to be) satisfied	Grade, comments	Approving advisor/date

## Program requirements

### Credit hours

Have you met all the prerequisite requirements and admission conditions established at the time of your admission:  
 Yes No

	All graduate work (including Master's)	Cr hrs	Term to be taken	Grade, comments (indicate if transferred or waived, etc.)	Approving advisor/date (where appropriate)
1	CS 7300 Dissertation				
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

**TOTAL CREDIT HOURS**

Have you met the requirement of at least 30 credit hours of course work past the masters, 12-24 hours of dissertation, and at least 72 hours of graduate credit? Yes No

## Qualifying examination

Date admitted: \_\_\_\_\_ Did you have a MS when admitted? Yes No

Area of qualifying examination	Term to be taken	Grade, comments

Are the following conditions met:

Yes No Students admitted with a Master's degree must take one qualifying examination no later than the first time offered after completion of 15 WMU credit hours, and must take a second examination no later than the first time offered after completion of 30 WMU credit hours. All students must take all their qualifying examinations no later than the first time offered after completion of 45 WMU credit hours. A student has one opportunity to repeat the qualifying examination.

Yes No There are five examination topic areas in two categories as follows:

**Systems:** Computer architecture, Compiler design, and Operating systems  
**Theory:** Design and analysis of algorithms, and Theory of computation

The student must select three of the five areas for his or her qualifying examination with at least one exam from each category.

## Preliminary examination

Date all qualifying examinations completed: \_\_\_\_\_

Date preliminary examination first taken: \_\_\_\_\_

Date preliminary examination passed: \_\_\_\_\_

Yes No Did you complete the preliminary examination within one year after passing the qualifying examination?

## Language requirements and research tools

You must obtain departmental approval and demonstrate mastery of two of the following three research skills:

<b>general requirement</b>	<b>date/manner mastery demonstrated</b>	<b>date approved/ approver</b>
A foreign language other than English, with competency equivalent to a 4000-level course at WMU		
Statistics or probability at the level of STAT 3620 Probability, or STAT 3640 Statistical Methods		
Computer document preparation and library tools		

Dissertation and doctoral dissertation committee

Dissertation director: \_\_\_\_\_

Date appointed: \_\_\_\_\_

Other members of the dissertation committee

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date appointed: \_\_\_\_\_

Yes No Is the dissertation committee comprised of the dissertation director and at least two other members of the graduate faculty, at least one of whom shall be from outside the department?

\_\_\_\_\_ Date the completed dissertation is presented by the candidate at a public seminar and oral defense.

\_\_\_\_\_ Date the dissertation presentation is passed.

**Signatures**

Student	Date
Advisor	Date
Graduate Program Director	Date
Department Chair	Date

## **Program requirements**

The plan of study allows for considerable variety of emphasis; students can take advantage of the strengths of the department in matching their interests in professional development.

### **General requirements for a doctoral degree**

A successful candidate for the Ph.D. in computer science is responsible for all the general requirements for a doctoral degree as stated in the Graduate Catalog. The remainder of this section restates some of the general requirements and includes additional requirements specific to the doctoral program in computer science.

### **Prerequisite requirements**

A student having prerequisite requirements as a condition of admission must complete all prerequisites before being considered to have entered the doctoral program.

### **Credit hours**

The Ph.D. in computer science requires beyond the student's master's degree the completion of at least 30 credit hours of course work and 12 - 24 hours of dissertation credits. This implies a total of at least 72 credit hours of graduate work.

The requirement of the completion of at least 30 credit hours of course work past the master's degree is satisfied by (i) at least 24 credit hours of regular course work not including independent study, research, seminars and professional field experience; (ii) 3 credit hours of CS7350, Graduate Research, taken during the first two years of enrollment culminating in a research report submitted to the department; and (iii) 3 credit hours of course work that may include independent study, research, seminars and professional field experience.

### **Demonstrate competency in two research skills**

Each Ph.D. candidate must obtain departmental approval and demonstrate mastery of two of the following three research skills:

- A foreign language other than English, with competency equivalent to a 4000 - level course at WMU.
- Statistics or probability at the level of  
STAT 3620 Probability, or  
STAT 3640 Statistical Methods
- Computer document preparation and library tools.

### **Qualifying examination**

Before admission to candidacy for the doctoral degree, the student must pass a general qualifying examination in Computer Science. Students admitted with a Master's degree must take one qualifying examination no later than the first time offered after completion of 15 credit hours, and must take a second examination no later than the first time offered after completion of 30 credit hours. All students must take all their qualifying examinations no later than the first time offered after completion of 45

credit hours. A student has one opportunity to repeat the qualifying examination.

There are five examination topic areas in two categories as follows:

### **Systems**

Computer architecture	(CS 6250)
Compiler design	(CS 6810)
Operating systems	(CS 6550)

### **Theory**

Design and analysis of algorithms	(CS 6310 or CS6320)
Theory of computation	(CS 6800)

The student must select three of the five areas for his or her qualifying examination with at least one exam from each category. The student will have the opportunity to repeat a portion of the qualifying examination once, but may not change the selected areas. The department will determine what area(s) of the examination, if any, the student must repeat.

The qualifying examination may be satisfied by completing the 6000-level courses of the three selected areas with a grade of BA or better.

### **Preliminary examination**

Each doctoral candidate must obtain approval from his or her dissertation committee for a dissertation topic and research plan. This approval process is called the *preliminary examination* and is structured by each dissertation committee to fit each candidate's program. The preliminary examination must be completed within one year after passing the qualifying examination and at least one year in advance of the dissertation defense. A candidate has one opportunity to repeat the preliminary examination.

### **Complete and successfully defend a dissertation (12-24 hours of CS7300)**

A doctoral dissertation, which is the culmination of an original and substantive research effort by the candidate, must be completed and publicly defended. This study is done under the supervision of a dissertation director and dissertation committee. A dissertation director is appointed by the department, typically within the candidate's first two years in the doctoral program and based on the candidate's interests.

The doctoral dissertation committee is appointed by the Graduate College based on the petition of the candidate and the approval and recommendation of the department chair. The doctoral dissertation committee is comprised of the dissertation director and at least two other members of the graduate faculty, at least one of whom shall be from outside the department.

Committee members facilitate and guide the candidate's academic and research development.

Before a candidate is awarded the Ph.D. degree, each member of the doctoral dissertation committee must approve the dissertation. The completed dissertation is presented by the candidate at a public seminar and oral defense.

**Master's En-route to PhD**

From AY 2011-12, a new university rule for master's+doctoral degrees. If a master's degree enroute to PhD is desired, then the student must take at least 15 credit hours of regular course work past the courses counted in the master's degree + 12-24 credit hours of dissertation!