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# Annual Review of Doctoral Students – Guidelines

*Department of Computer Science*

*College of William & Mary*

*October 1999*

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The faculty reviews the progress of each PhD student toward his/her degree at least once each year, typically in the Spring semester. Each student's case for review is presented to the faculty by a faculty advocate, chosen by the student, with the student's advisor as the default choice. (Students will be notified two weeks prior to the review and, at that time, given the option to choose their faculty advocate.) In this review the faculty considers each student's academic performance and status with respect to the faculty's expectations. This document is intended to help students understand the faculty's expectations of the typical PhD student.

The usual outcome of a student review will be to continue the student in the program, perhaps with specific suggestions about actions the student should take prior to the next review. In unusual circumstances, however, a student may be placed on probation until certain course or grade requirements are met, or a student may be required to withdraw from the program for a specific period of time, or a student may be required to withdraw from the program forever. In any case, the outcome of the review will be presented to the student in writing.

## 1 Requirements

The current requirements for the PhD program are described below. Note that these requirements, and all the corresponding guidelines in this document, apply to all students who entered the PhD program starting Fall 1999. If you entered prior to Fall 1999 you should consult with your advisor to be sure you understand what requirements apply in your case.

- *Course requirements.* There are *seven* required courses:

1. Four of the seven courses must be chosen from the following:

- CS 652 Advanced Compiler Construction
- CS 653 Analysis of Algorithms
- CS 654 Advanced Computer Architecture
- CS 663 Theory of Computation
- CS 664 Advanced Operating Systems

2. The remaining three courses may be chosen from the 600 or 700 courses in the CS department excluding CS 670 (Colloquium), CS 690 (Readings), CS 695 (Research), CS 700 (MS Thesis), CS 710 (Research Project), CS 770 (Colloquium), CS 790 (Advanced Readings), CS 795 (Research) and CS 800 (Dissertation). The objective of these three courses is to engage the student in the literature and methods of at least one active research area. At least two of these three courses must be at the 700 level, and at most two may be taken outside the Computer Science Department. (Courses taken outside the department should be approved in advance.)

3. Additional course requirements and reporting requirements exist for students in the Doctor of Philosophy with a specialization in computational science degree program. Students pursuing this specialization should consult the *Graduate Arts and Sciences Program Catalog*

*All of the seven required courses must be taken at William & Mary. Furthermore, you must obtain a GPA of at least 3.7 among these courses, with no grade lower than B-. This GPA requirement loosely translates to “at most two B’s among these seven courses”. In addition to these seven required courses, other courses (if any) you may be required to take will be determined by you and your advisor, depending on your background and research interests.*

- *Candidacy.* You cannot be admitted to candidacy without a research advisor and an advisory committee; application for candidacy is a process *you* must initiate. In particular, by the time the seven required courses are completed, you should have selected a principal research advisor, formed a doctoral advisory committee and presented your credentials to the CS faculty for acceptance into candidacy. The doctoral advisory committee consists of your advisor and at least two additional CS faculty members. At the time of admission to candidacy, the student and his or her research advisor will be expected to demonstrate how the three elective courses have met the objective listed in the *Course Requirements* section.
- *Comprehensive Qualifying Exam.* After acceptance into candidacy, you must prepare for and pass the comprehensive exam. The basis for this exam will be a PhD research proposal—a document written by you, based on your study of the literature relevant to your research area. The exam will test you in your chosen area of research to assure a level of preparation appropriate to writing a dissertation. This exam is oral, will be conducted by your doctoral advisory committee, and will be open to the CS faculty and any other outside persons the department may invite. Further details about the exam follow in this document.
- *Dissertation Defense.* After you have passed the doctoral comprehensive exam, you will be expected to write, submit and defend an acceptable dissertation based on original research and constituting a contribution to scholarly knowledge. The committee that administers this exam must consist of at least *five* members, one of whom must be from outside the department. The committee may include qualified persons from outside the College, but a majority of the committee, including the director of the dissertation, who is also the chair of the committee, must be members of the faculty of the College. It is not necessary for this committee to be a superset of the committee that administered the doctoral comprehensive exam; indeed, the two committees can be disjoint (although that would be very unusual). This exam is oral, will be conducted by your committee, and will be open to the CS faculty and any other outside persons the department may invite.
- *Residency.* The College requires that PhD students spend at least one academic year in continuous residence as a full-time student at the College after completion of the MS requirements. If you were admitted into our PhD program with a BS only and if you choose to not get a MS degree as you work toward the PhD, then you will need to fulfill the residency requirement after completing the seven required PhD courses.

Note this important College-wide rule for PhD students: *all requirements for the doctoral degree must be completed within seven calendar years of the time the student is admitted to the doctoral program.*

## 2 Milestones for a full-time student admitted with an MS

To help you make progress towards your PhD degree and to help you understand what the faculty means by satisfactory progress, nominal milestones are described below.

Year	Fall semester	Spring semester	Summer
Year 1	<b>Course work.</b> Take required courses and additional courses as appropriate.	<b>Course work.</b> Continue with course work. Start thinking about a research area and a PhD advisor.	<b>Research.</b> Explore research topics. Begin reading the literature in your area of interest.
Year 2	<b>Course work and Research.</b> Select a PhD research advisor. Begin to explore research topics with your advisor.	<b>Course work and Candidacy.</b> Complete the seven required courses. <i>Apply for candidacy.</i> Collect and critically read papers in your research area. Formulate research problems of potential interest to you.	<b>Proposal Writing.</b> Do not consider your research proposal to be just an enumeration of "this is what I plan to do for my dissertation". A well-written proposal should have some preliminary results as well.
Year 3	<b>Comprehensive Qualifying Exam.</b> Complete your research proposal by the end of the semester and pass the doctoral comprehensive exam.	<b>Research.</b>	<b>Research and Dissertation.</b>
Year 4	<b>Research and Dissertation.</b>	<b>Dissertation Defense.</b> Complete the writing and defense of your dissertation.	

### 3 Milestones for a full-time student admitted with a BS

To help you make progress towards your PhD degree and to help you understand what the faculty means by satisfactory progress, an approximate timetable of events is described below.

Year	Fall semester	Spring semester	Summer
Year 1	<b>Course work.</b> Take required courses and additional courses as appropriate.	<b>Course work.</b> Take required courses and additional courses as appropriate.	<b>Research.</b> Explore research topics.
Year 2	<b>Course work.</b> Take required courses and additional courses as appropriate.	<b>Course work.</b> Continue with course work. Start thinking about a research area and a PhD advisor.	<b>Research.</b> Explore research topics. Begin reading the literature in your area of interest.
Year 3	<b>Course work and Research.</b> Select a PhD research advisor. Begin to explore research topics with your advisor.	<b>Course work and Candidacy.</b> Complete the seven required courses. <i>Apply for candidacy.</i> Collect and critically read papers in your research area. Formulate research problems of potential interest to you.	<b>Proposal Writing.</b> Do not consider your research proposal to be just an enumeration of "this is what I plan to do for my dissertation". A well-written proposal should have some preliminary results as well.
Year 4	<b>Comprehensive Qualifying Exam.</b> Complete your research proposal by the end of the semester and pass the doctoral comprehensive exam.	<b>Research.</b>	<b>Research and Dissertation.</b>
Year 5	<b>Research and Dissertation.</b>	<b>Dissertation Defense.</b> Complete the writing and defense of your dissertation.	

## 4 Financial support

The milestone tables on the previous pages indicate the nominal progress the faculty expects a student to make towards a PhD. If you are supported by the department, if the annual review of your progress is consistently satisfactory, if you perform your assigned TA duties promptly and effectively, and if (as expected) the College continues to provide the CS department with adequate TA stipend and tuition funds, then you can expect to have your support continued for the number of years appropriate to your level of entry (MS or BS). That is, if you were admitted as a full-time PhD student with an MS in Computer Science, you can expect support for four years; if you enter as a full-time PhD student with a BS only you can expect support for five years.

The faculty recognizes the risks and uncertainty involved in research. Correspondingly, if you and your advisor make a compelling case for additional support then the faculty will consider supporting you with departmental funds for *one* additional year beyond the four or five years appropriate to your level of entry. Additional support beyond this one year will be provided only in very unusual situations.

## 5 Part-time students

If you are a part-time student, the faculty sympathizes with the difficulty you might have finding time to keep pace with full-time students. However, the College has a seven-year limitation on the duration of a PhD and, consistent with this limitation, the faculty expects you to make significant and continued progress towards your dissertation. Thus, even though the progress of each part-time student is assessed on a case-by-case basis, generally the faculty expects you to progress at a rate equal to at least half the nominal rate of full-time students.

CSci 710. Research Project.

(2 credits). Graded P (Pass) or F (Failure).

Prerequisite: Permission of Graduate Director.

Not open to students who receive credit for CSci 700.

Students will select a faculty advisor in their area of research interest, undertake a research project, and write a paper describing their research. This course is normally taken after a student has completed 18 credit hours toward the MS degree. However, students are advised to begin the process of selecting a research area, an advisor and meeting with the advisor before completing 18 credits.

Students who want to register for CS 710 must submit a short abstract describing their research project to the Graduate Director at least two weeks before the class is scheduled to begin. This abstract must be signed by the faculty member who will direct the research. Each tenure-track faculty member is permanently assigned to a particular section of CSci 710. Use the listing below to determine which section you should select during registration.

CSci 710-01	Dr. William L. Bynum
CSci 710-02	Dr. Robert E. Noonan
CSci 710-03	Dr. Stephen K. Park
CSci 710-04	Dr. Paul K. Stockmeyer
CSci 710-05	Dr. Richard H. Prosl
CSci 710-06	Dr. Stefan Feyock
CSci 710-07	Dr. W. Robert Collins
CSci 710-08	Dr. J. Philip Kearns
CSci 710-09	Dr. David M. Nicol
CSci 710-10	Dr. Weizhen Mao
CSci 710-11	Dr. Rahul Simha
CSci 710-12	Dr. Gianfranco Ciardo
CSci 710-13	Dr. Virginia J. Torczon
CSci 710-14	Dr. Xiaodong Zhang
CSci 710-15	Dr. Evgenia Smirni
CSci 710-16	Dr. Andreas Stathopoulos
CSci 710-17	COR faculty

Any student who is unable to convince any other faculty member to be their CSci 710 advisor, will be assigned to our graduate program director. Any student in this situation must still submit a short abstract to the Graduate Director for approval at least two weeks before the semester begins. A student availing of this option, in the best interests of the student, is requested to contact the graduate program director well before this two-week period.

Any student who registers for CSci 710 in their final semester should take into consideration that the course **MUST** be completed by the last day of classes in that semester -- not by the end of the exam period. Completion of the course includes completion of the project, writing a report and receiving approval from the advisor.

In the case of Spring 2000, CSci 710 must be completed by May 1. A student who misses this deadline will not graduate in the Spring 00 semester...no exceptions.

A MS student that is supported by the department who misses this CSci 710 deadline, and therefore has their graduation postponed, should not expect the department to continue their support past the end of the semester.

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Official motions passed by the Computer Science faculty on 12-01-97.

Graduate students who are supported by funds from the Office of the Dean of Research and Graduate Studies must be full-time. Such students who have not completed all courses requirements for their graduate degree must take, each semester, three three-credit courses that can be applied toward a graduate degree in computer science. For one semester only, these students may substitute CSci 710 and two such three-credit courses.

Starting fall 1998, any graduate student who has completed all the requirements for the M.S. degree except for CSci 710 will be required to register for either CSci 695 (for one credit) or CSci 710 (for two credits) in each subsequent semester (fall and spring) until the student has satisfied the CSci 710 requirement. Any graduate student in this situation who fails to register for either CSci 695 or CSci 710 will be withdrawn from the M.S. program by the director of graduate studies.

## **GOOD STANDING IN THE COMPUTER SCIENCE PROGRAM**

A student who has taken twelve or more credits in courses leading to a masters or doctoral degree in the Computer Science program must maintain a minimum 3.00 gpa in these courses in order to remain in good standing in the program. Students not in good standing will be asked to leave the program. If unusual and extenuating circumstances have prevented a student with at least twelve credits from maintaining a 3.00 gpa, but that student has at least a 2.75 gpa, then that student may appeal in writing to the Admissions and Retention Committee. No other appeals are possible, and the decision of the committee is final.

If a student fails to register for classes for one semester or withdraws from all classes in one semester (excluding summer school) then that student must reapply to the graduate program before he can be allowed to take additional classes. Any new admissions requirements will apply to a student who withdraws from school and then applies for readmission.

A student may defer admission for at most one semester. Any student wishing to defer admission for a period greater than one academic semester must reapply. This includes submitting a completely new application for graduate study, new letters of recommendation, transcripts, etc. The student is then treated as a new applicant to the program, not as a readmit.

## **TRANSITION FROM PROVISIONAL TO REGULAR ADMISSION**

During their provisional status, students in the Computer Science program must earn at least a B in each course required for regular admission. These courses may include Linear Algebra, Data Structures, and Computer Organization. Failure to do so will result in a denial of regular admission.

A provisional student receiving a grade of less than a B may appeal in writing to the Retention Committee to be allowed to remain in the program. The decision of the Retention Committee is final.

Note: No course needed for regular admission may be applied to the credits necessary for a degree in Computer Science.

## **FACULTY REVIEW OF DOCTORAL STUDENTS**

The faculty will review each PhD student's progress toward his/her degree at least once each year. In this review the faculty will consider each student's academic performance and status with respect to the department's examinations and deadlines, performance in duties related to his/her funding, performance in research and/or teaching responsibilities, and performance with respect to any other issues related to the appropriateness or desirability of continuing a student in the PhD program.

The outcome of the review, under most circumstances, will be to continue the student in the program. However, a student may be placed on probation until certain course or grade requirements are met. A student may be required to withdraw from the program for a specific period of time, or a student may be required to withdraw from the program forever.

Each student's case will be presented to the faculty by a faculty advocate who normally will be the student's advisor. However, the student may choose another faculty member as advocate.