REVISED OCT 18, 2013

Comments, questions, suggestions are welcome.

New proposed timelines (next page) for PhD, PhD-direct.

Current PhD Checkpoint Proposal:

- Replace MSc paper presentation checkpoint from PhD program with a Qualifying Project Proposal.
- Change the nature of the qualifying oral. See the NOTES qualifying oral below (p. 4 ?)
- Move deadline for qualifying oral earlier.
- Streamline PhD-Direct.
- Change candidacy conditions:

SGS requirement that PhD students achieve candidacy within 3 years of PhD start date, PhD-Direct within 4 years.

Candidacy currently involves completing the PhD course and breadth requirements, plus completing the qualifying oral.

Proposal: Require the research proposal be completed in order to achieve candidacy (SGS rules: candidacy must be achieved within 36 months of the start date).

Proposed Timelines (current timeline on next page)

PhD with previous CS MSc

Months; Goal

- 1 supervisor, breadth statement
- 4; have completed 1-2 courses (recommended)
- 5-8; qualifying research project proposal
- 12-16; qualifying oral, recommend having 3-4 courses complete
- 24-28; research proposal
- 36; thesis proposal, complete course and breadth requirement. (Achieve candidacy)
- 48; departmental oral, senate oral to follow

Notes: 5 months longer than current Phd with a MSc from DCS. Increases length of guaranteed support. MSc + PhD is 16 months + 48 = 64. (Msc support reduced by one, from 17 to 16) since MSc to PhD students are asked to complete their MSc at 17 months (e.g. Jan 31), and dual register as PhD student on Jan 1. In this case, funding starting Jan 1 will be considered PhD funding.)

PhD direct (no previous CS MSc)

Months; Goal

- 1; supervisor, breadth statement
- 4; recommend having 2 courses complete.
- 5-8; qualifying reseach project proposal
- 12-16; qualifying oral, recommend having 4 courses complete and breadth requirement. Can switch to MSc, need to complete research paper. (Complete by 20 months.)?
- 28-32; research proposal, recommend having 6 courses complete,
- 40-44; thesis proposal, complete 8 courses and breadth requirement. (Achieve candidacy)

56 (4 yrs + 8 months); departmental oral, schedule senate oral

4-8 months shorter than current Phd-direct schedule due to elimination of the duplication of the msc research paper and the qualifying oral.

Guaranteed funding:

MSc (only) 17 months

Msc + phd is 64 assuming phd funding starts at 17th month, when student dual registers.)

Phd direct is 56.

Old Timelines:

MONTHS IN PROGRAM				
M.Sc.	Ph.D.	Ph.D. with M.Sc. from elsewhere	direct entry	
				PROGRAM START (for students entering the M.Sc. or the Ph.D. program directly from a B.Sc.)
1			1	Submit Breadth Evaluation and Plan of Study Form to CS Graduate Office.
			6	directly from a B.Sc.
12			12	Coursework: M.Sc. Students should manage their time so that 4 half-credit courses can be completed within 12 months to allow using the remaining 5 months to focus on research and writing the research paper. The grade of each course must be at least B
				M.SC. STUDENTS GRADUATING: Coursework: All coursework must be completed with a grade of at least B- for students wishing to complete the M.Sc. degree and graduate. Research Paper: The Research Paper is to be submitted and approved by two readers. Reader reports are to be submitted to the Graduate Office at least two days prior to the SGS deadline.
				M.SC. STUDENTS GRADUATING AND CONTINUING TO PH.D.: Read the instructions for M.ScPh.D. Transition Procedure in this handbook.
17			17	PH.D. STUDENTS ADMITTED DIRECTLY FROM A B.SC. DEGREE: At this point you should complete a research paper and have it approved by two readers in order to be permitted to continue to Checkpoint 1 in the Ph.D. program.
	1	1	18	PH.D. PROGRAM START
				Formation of Supervisory Committee
	3	12	20	CHECKPOINT 1: Oral Presentation of the Research Paper
	9	20	24	CHECKPOINT 2: Qualifying Oral Examination
	18	26	36	CHECKPOINT 3: Research Proposal
				CHECKPOINT 4: Thesis Proposal
				Coursework: All course work completed with a grade of at least B
	36	36	48	Candidacy Achieved: All degree requirements must be completed, exclusive of research and thesis.
			-	CHECKPOINT 5: Departmental Thesis Examination
	43	48	60	CHECKPOINT 6: Final Oral Examination at the School of Graduate Studies

Notes:

1. Qualifying Project and Oral:

Decision to be made at the qual.

The key decision the student's PhD committee needs to make at the qualifying oral is whether the student is likely to be successful going forward as a PhD student, on this general topic, in this department.

The grad handbook describes this as "...assessing the student's understanding of the literature..." and their "... preparedness to do research in that area."

Current Qualifying Exam. From the grad handbook:

CHECKPOINT 2 – Qualifying Oral Examination:

The student presents an area of research to the supervisory committee, normally in a closed forum. The purpose of this examination is to assess the student's understanding of the literature in the area of research, as well as preparedness to do research in that area. This involves assimilating the significant research papers on the topic, understanding how they relate to one another, and identifying valid open research questions. The student typically prepares a short written survey of the work in the area, and distributes it to the supervisory committee at least two weeks prior to the examination. The length of the survey should not exceed that appropriate for inclusion in a doctoral thesis in the area. Material written by the candidate for another purpose (for example, the research paper) may be re-used in the survey. The area chosen by the student should be sufficiently broad to contain many potential thesis topics, yet sufficiently narrow that the highly relevant papers number in the tens rather than in the hundreds. The examination typically lasts approximately two hours and begins with a 20 to 30 minute presentation by the candidate. The committee will determine whether the student should proceed to thesis work. They may recommend that the student do more course work or reading

Critique of current qual.

One trouble with a common form of the qualifying oral is that a student can work very hard on the breadth of the document, but exhibit very little depth in the topic, and demonstrate no ability in the document itself to actually use the concepts. The student's proficiency, creativity, drive, and insight may not really be engaged. Such papers aren't acceptable because they don't support the decision the committee is trying to make. In these cases the key decision rests on how the student responds to questioning during the oral exam. But that's not so easy on the student, and the committee may be biased towards recognizing the effort involved in producing the document. Moreover, the student may have wasted a lot of time on this exercise.

The key question for faculty:

What evidence do you need to make a decision about how successful the candidate will likely be in our PhD program?

To be on a successful trajectory students need to understand some body of research literature, understand the basic graduate level concepts, show that they can actually use these concepts themselves, and understand what some of the important research issues are and why they are important. To demonstrate all this they probably need to choose a problem and run with it a bit. This is the motivation for a qualifying project. Moreover, a

good way for a student to demonstrate all these things (outside the pressure of an oral exam) is by reporting on such a project. The oral exam is then, ideally, a second opportunity for the student to demonstrate these things.

Grad course projects (and an oral defense) actually come very close to providing enough information. But course projects are often severely truncated to fit within the course's time limits. Allowing the proposed qualifying project to extend into a second term should be sufficient for the committee to evaluate the progress the student is making.

Qual Project Proposal. We are thinking of asking the student to provide a brief (one to two) page project proposal to their PhD supervisory committee, which the committee can comment on. They need to approve before a project, preferably near the beginning. The approval of project description is up to the PhD supervisory committee, with the understanding of the goal of this exercise. For example, the project needs to be sufficiently rich to provide evidence for what needs to be decided at the end. Basically, the committee here would be signing off on the following, if the student works on this project then they expect to be able to evaluate the student's ability as a PhD candidate within 4-8 months. This qualifying project proposal check point could be on-line.

Where is the bar?

Question: Should the written project report be of the quality of a workshop paper?

There are a variety of workshops (strictly refereed and wide open). The bar for the qual project report is lower than a reasonably well referred workshop, and higher than an unrefereed workshop.

Depending on the topic and the project, students may not get as far as a good workshop paper. For example, the PhD committee should be comfortable making their decision if the student's results are negative, that this wasn't transparently obvious before the project started (hence the qual project approval is needed), that the student clearly understand why they got negative results, and can the student can discuss some plausible options for moving forward.

Perhaps the bar for passing this qualifying oral can be expresses as follows:

"... the student's progress on this project is consistent with what a successful PhD student, at a similar stage of their program, can be expected to have achieved over this period of time..."

Unfortunately, that's not such a useful statement to new grad students.