

# Computer Sciences Ph.D. Survey

Department of Computer Sciences  
Florida Institute of Technology

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## Introduction

Each Spring students enrolled in the department's doctoral program are requested to fill out a survey to help the department improve this program. The survey is online at

[http://www.it.fit.edu/survey/computer\\_sciences\\_doctoral\\_survey.cfm](http://www.it.fit.edu/survey/computer_sciences_doctoral_survey.cfm).

This report is online at

<http://www.cs.fit.edu/wds/goals/surveys/phdsurvey02.pdf>

In Spring 2002, 11 students, out of 26 registered students (42.3%), returned the survey. Results of the survey are summarized in the following sections. The last section contains the department's response to the survey results.

## Degree Status

These questions seek to identify the stages you have completed in fulfillment of the PhD requirements.

**Q1** Are you a full-time student? Yes or No.

**Q2** How many regular semesters (Fall or Spring) have you been in the PhD program?

**Q3** Have you completed your formal course requirements? Yes or No.

**Q4** Have you passed your breadth comprehensive exam? Yes or No.

**Q5** If yes, how many regular semesters were you in the PhD program prior to passing the breadth exam?

**Q6** Have you passed your depth comprehensive exam? Yes or No.

**Q7** If yes, how many regular semesters were you in the PhD program prior to passing the depth exam?

**Q8** Have you passed your dissertation proposal? Yes or No.

**Q9** If yes, how many regular semesters were you in the PhD program prior to defending your proposal?

**Q10** How many regular semesters do you anticipate it will take you to finish your PhD?

**Q11** Are you making good progress toward your PhD degree?

Very good    Good    Average    Poor    Very    Poor

**Q 12** What is your estimate of the likelihood that you will successfully complete your PhD?

- Above 99% .....4

- Above 75% (including “very likely”) .....6
- Above 50% (including “average”) ..... 8
- Below 15% (including “nil”) .....3

Degree Status Answers										
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11
No	8	Yes	Yes	1	Yes	1	Yes	3	4	Poor
No	0	No	No	N.A.	No	N.A.	No	N.A.	8	Very Poor
Yes	2	No	No	N.A.	No	N.A.	No	N.A.	8	Good
Yes	2	No	No	N.A.	No	N.A.	No	N.A.	5	Average
Yes	3	No	No	N.A.	No	N.A.	No	N.A.	9	Average
Yes	2	No	No	N.A.	No	N.A.	No	N.A.	6	Average
No	14	Yes	Yes	5	Yes	6	Yes	8	10	Average
Yes	7	No	Yes	5	Yes	5	Yes	7	10	Good
Yes	6	Yes	Yes	3	Yes	5	No	N.A.	10	Average
Yes	0	No	No	N.A.	No	N.A.	No	N.A.	6	Good
Yes	2	No	No	N.A.	No	N.A.	No	N.A.	8	Average
Yes 8 No 3	$\mu = 4.2$	Yes 3 No 8	Yes 4 No 7	$\mu = 3.5$	Yes 4 No 7	$\mu = 4.25$	Yes 3 No 8	$\mu = 6.0$	$\mu = 6.91$	Very Good 0 Good 3 Average 6 Poor 1 Very Poor 1

(Some responses were changed to N.A. because respondents provided an answer to a following question when the previous answer was No.)

## Research

This section asks you to report on your research.

- Q13** How many seminars/talks have you given to on your research work within the past year?
- Q14** How many seminars/talks have you given on your research since entering the PhD program?
- Q15** How many seminars/talks have you given on others’ research work within the past year?
- Q16** How many seminars/talks have you given on others’ research work since entering the PhD program?
- Q17** How many papers have you submitted for publication in conference, books, or journals within the past year?
- Q18** How many papers have you submitted for publication in conferences, books, or journals since entering the PhD program?
- Q19** How many of your papers have been accepted or published in conferences, books, or journals within the past year?
- Q20** How many of your papers have been accepted or published in conferences, books, or journals since entering the PhD program?
- Q21** Should there be a publication requirement for students in a PhD program?

Definitely yes    Most likely yes    Neutral    Most likely not    Definitely not

Research Answers								
Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21
2	4	0	0	3	5	0	2	Most likely not
0	0	0	0	0	0	0	0	Most likely yes
1	1	0	0	0	0	0	0	Neutral
2	2	2	2	0	0	0	0	Definitely yes
2	1	1	1	4	4	0	0	Neutral
0	0	0	0	0	0	0	0	Definitely yes
1	2	0	0	1	2	0	0	Neutral
2	3	2	4	1	1	0	0	Neutral
1	1	2	4	0	0	0	0	Most likely yes
0	0	0	1	0	0	0	0	Most likely yes
0	0	1	1	0	0	0	0	Neutral
$\mu = 1.0$	$\mu = 1.3$	$\mu = 0.7$	$\mu = 1.2$	$\mu = 0.8$	$\mu = 1.1$	$\mu = 0$	$\mu = 0.2$	Definitely yes 2 Most likely yes 3 Neutral 5 Most likely not 1 Definitely not 0

**Q22** We consider a PhD to be a research degree. In your opinion, what is research?

- Determine what others have done to solve a problem, what could be improved, conduct experiments, analyze and publish the results.
- in computer science, developing computer programs which solve perviously unsolved problems.  
to a lesser extent, developing a refinement of a previously developed solution but only if such refinement illuminates an important aspect of the solution.
- Research study should be a progress to propose new and better ideas. This can be archived through certain amount of working experience, communication with the advicor and intensive thinking. As to me, I perfer to
- publication
- something that never ends!
- Research is a process that involves finding out as much as possible about a certain topic or area of interest. As a Ph.D. student, my goal would be to become "an expert" in my field due to research.
- Research is to find problems and solve them.
- Search for new knowledge
- improving things, creating new methods to solve problems
- Research is a quest to find something new or something that is an improvement to the present knowledge of ours (most likely in a not too broad field)
- Answering some question that makes a difference that hasn't been answered before.

## Interaction With Advisor

Please describe your relationship with your advisor.

**Q23** Do you currently have a PhD advisor? Yes or No.

**Q24** How many regular semesters has he or she been your advisor?

**Q25** Have you and your PhD advisor been in regular contact to discuss your progress within the last year?  
Yes or No.

**Q26** How many times per regular semester do you and your advisor meet to discuss your progress?

**Q27** How many months ago did you and your advisor last discuss your progress?

**Q28** Are your advisor's expectations clear? Yes or No.

**Q29** Rate your advisor's help to you in making progress toward your PhD degree.

Very good   Good   Average   Poor   Very Poor

**Q30** What do you expect from your advisor?

- Feedback on what I have done and what I should be doing.
- guidance in selecting an appropriate topic. help in identifying relevant sources of information. feedback on interim results.
- I wish my advisor to talk with me in a free atmosphere. 'Cause I am a student who will perform very badly under certain pressure.
- good guidance
- proper guidance to literature whether the doctoral work is worthwhile or not
- To provide guidance regarding the process I'm following to obtain a Ph.D., and to provide feedback regarding the quality of my work.
- Give the guideline for my research and help identifying problems and finding the solutions.
- Help me to follow the direction to get my dissertation done
- help and support
- To give me guidance if I'm stucked in a problem and to give me advices that are helpful to me to finish my Ph.D. as soon as possible, with the requirements passed
- I can't answer this right now.

**Q31** Rate the help you receive from other faculty members in making progress toward your PhD degree.

Very good   Good   Average   Poor   Very Poor

**Q32** How should a student's dissertation be evaluated?

- It should make a significant contribution to a field of research and be of publishable quality.
- do not know. haven't really thought about it.
- New and Better ideas.
- accurately
- dont know
- By a team of professors. Criteria should include writing style, content, uniqueness of topic.
- Originality and usefulness of research
- State of the art, complexity and application of the results
- no opinion in this topic
- The evaluators should evaluate the Dissertation based on the state-of-the-art of the time the student began their Dissertation; and what was added to that knowledge by this Dissertation; and how well was the goals given in the Proposal achieved (and they weren't, why not)

- 1) Does it define a question? 2) Does the question make a difference to someone? 3) Does it answer the question? 4) Is the answer new?

Interaction with Advisor Answers							
Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q31
Yes	8	Yes	40	0	Yes	Good	Very Poor
Yes	5	No	3 or 4	1 week	Yes	Good	Good
Yes	2	Yes	every week	1	Yes	Very good	Very good
Yes	1	Yes	every week	0	Yes	Good	Very good
Yes	5	Yes	all the time	1	Yes	Good	Good
Yes	1	Yes	8	1	Yes	Average	Average
Yes	1	Yes	15	0	Yes	Good	Average
Yes	7	Yes	30	1	Yes	Very good	Average
Yes	5	Yes	5	0	Yes	Good	Very Poor
Yes	0	No	-	1	Yes	Average	Average
Yes	2	Yes	3-Feb	1	Yes	Very good	Average
Yes 11 No 0	$\mu = 3.36$	Yes 9 No 2		$\mu = 0.5$	Yes 11 No 0	Very good 3 Good 6 Average 2 Poor 0 Very poor 2	Very good 2 Good 2 Average 5 Poor 0 Very Poor 2

## Teaching Experience

Please answer these questions about your experience in teaching.

**Q33** Have you been a teaching assistant in the department? Yes or No.

**Q34** If you have been a teaching assistant, was this a valuable educational experience?

Very valuable   Valuable   Neutral   Little value   Not valuable

**Q35** Should there be a teaching requirement for students in a PhD program?

Definitely yes   Most likely yes   Neutral   Most likely not   Definitely not

Teaching Answers		
Q33	Q34	Q35
Yes	Valuable	Definitely not
Yes	Very valuable	Most likely yes
No	Very valuable	Most likely yes
No	Very valuable	Definitely yes
No	Very valuable	Definitely yes
Yes	Very valuable	Definitely yes
No	Neutral	Neutral
No	Not valuable	Neutral
No	Neutral	Neutral
No	Valuable	Neutral
Yes	Very valuable	Most likely yes
Yes 4 No 7	Very Valuable 6 Valuable 2 Neutral 2 Little value 0 Not valuable 1	Definitely yes 3 Most likely yes 3 Neutral 4 Most likely not 0 Definitely not 1

## Financial Support

Indicate how your education is being financially supported.

**Q36** Are you financially supported by research on a faculty project? Yes or No.

**Q37** Are you financially supported by teaching for the department? Yes or No.

**Q38** Are you financially supported by external sources (for example, company, government)? Yes or No.

**Q39** Are you financially supported only by yourself, your family, or friends? Yes or No.

Financial Answers			
Q36	Q37	Q38	Q39
Yes	Yes	No	No
No	Yes	No	No
Yes	No	No	No
Yes	No	No	No
Yes	No	No	No
No	Yes	No	Yes
No	No	No	Yes
No	No	Yes	No
No	No	Yes	Yes
Yes	No	Yes	No
Yes	Yes	No	No
Yes 6 No 5	Yes 4 No 7	Yes 3 No 8	Yes 3 No 8

## Career Goals

Please answer these questions on your career goals.

**Q40** Why do you want a PhD?

- To teach at the graduate level and do research, and because the work is interesting.
- pursuit of knowledge.
- Master study seems impossible to develop the capability of independent research. Instead, Ph.D. can help me to get comprehensive as well as in-depth knowledge in my research. In addition, it will enrich my teaching, if I could work as TA.
- to be an expert, to get a position easily after graduation, to publish papers,
- yet to figure it out
- To be qualified to teach at FIT.
- I want to learn how to research and have better chance to get a job in research area.
- To get a good preparation for teaching and researching
- I'm a faculty member of a university in my country. I want to improve our Master degree program and also get resources (\$) to do research and encourage bachelor students to continue studying.
- To understand the present and the future of my field better, and to be able to come up with new/better ideas that are useful for people who work on this field
- I want the option of teaching in a university environment.

**Q41** What is your primary career goal after earning a PhD e.g., teaching & research, teaching only, research only, in academia, industry, government, other

- Teaching and research.
- research - either in academia or industry
- I would like to work in the research division for Industry. Of course, I will also be pleased to work as a teacher.
- teaching & research
- industry
- Teaching at FIT. If this doesn't happen, I'll return to industry.
- research in industry
- Teaching and researching
- teaching & research, in academia improving the curricula of our programs offered in the university
- research (maybe teaching) in academia or industry
- Teaching in a university environment.

## Program Improvement

Please offer your insight on how the PhD program can be improved.

**Q42** Please offer suggestions on how to improve the PhD program.

- I am doing funded research in an area different than my dissertation proposal, which is preventing me from making progress due to lack of time to work on both. There should be some guidance on switching topics after the proposal is accepted.

- none
- Personally, I think 1. Ph.D. student should not take so many course at the begining of their Ph.D. study. They should use most of their time in research. To take so many course will share their energy. 2. The COM exam should not be too hard. When I talked with one Ph.D. student who took COM this semester, he says, comared with the COM given before, it is very tough for some exams in COM this semester(eg. Formal Language). Obviously, it is(will be) unfair for current(future) Ph.D. student to get so hard COM exam.
- By giving more chance to be involved in a good researchand to encourage to publish.
- hire some professors who do research in current hot topics
- There are some very smart professors who do not "teach" well. The basic skills required of a good teacher are missing. I feel that in these classes I could do just as well on my own reading the book. Please evaluate the professors and provide training on teaching.
- Change comprehensive exam procedures (too many subjects)  
Professors should have more time for making research (less undergraduate courses). Give more value to research credits than academic credits. profesors should participate in the PhD seminar (there are some profesor who never have been in a seminar) in order to give students more feedback. a good idea would be to mix the two seminars (sometimes).
- Proposal 1. Every student entering to the PhD program must participate in the PhD seminar by attending and also presenting at least once every semester. In order to achieve this, I propose the student must be enrolled in one research credit every semester, until he/she present and get approved his/her proposal. From that time on, the candidate must make a presentation every semester on his/her research. Proposal 2. Faculty members attend the PhD seminar. It would be more helpful if the faculty members could attend the PhD seminar. In this way we can get feedback and also be more challenged in our presentations. There are some faculty members that have never been in the seminar. Proposal 3. Get more interaction between Faculty members and students. The Department social te, has been canceled for many weeks. What happend? Proposal 4. Get a "Serie of Lectures" every semester. We can start with 2 or 3 in the first semester.
- - build a better network between the students so we will be able to help each other (and learn the fields of others) - keep the teached material at the sate-of-the-art level - give the students as many way to look at the same subject as possible
- Encourage more collegiality within the department. Between faculty members; between students and faculty; and between students. Encourage more communication between students and faculty, like attending proposal and dissertation defenses, like having faculty talk about their research interests more often. Encourage more top-notch outside speakers.

## Response to the Survey

**Survey Participation:** Only 42% of the doctoral students responded to the survey. This is not a positive result. This is the second year the survey has been conducted and the first year it was online. Over time, higher participation is expected.

**Degree Status:** Anecdotal data suggests that a 33% rate of *not* completing a Ph.D. may not be unreasonable.

**Research:** From Webster's Collegiate Dictionary:

**Research** 1. careful or diligent search; 2. studious inquiry or examination; *esp* : investigation or experimentation aimed at the discovery and interpretation of facts, revision of accepted theories or laws in the light of new facts, or practical application of such new or revised theories or laws; 3. collecting information about a particular subject.

Students respond that they give on average of one research seminar a year. This is a minimal number. Expectations should be that all Ph.D. students give at least one seminar a year.

Most students are not writing research papers. This should be one of the primary activities of Ph.D. students. It is a concern that submission and acceptance of research papers is so low. The special topics course "Empirical Research Methods" taken by nine Ph.D. students, may address this concern. Increasing research publications is essential for the health of this program.

The department made a commitment to support student travel for paper presentations (on a first-come, first-serve basis). Some trips were funded in the 2001-02 academic year. Current students are encouraged to take advantage of this opportunity.

**Interaction with Advisor:** That all students report they have an advisor is good and an improvement over last year. Advisor expectations are clear and most students believe their advisor is helping them make progress. That two students report other faculty provide very poor support is a concern.

**Teaching Experience:** The department would like to support more Ph.D. level students as instructors in courses and labs sections.

**Financial Support:** 55% of students responding report they are supported by research, and 44% report they are supported by teaching. Three students answered that they only had support from their self, family, or friends, yet they also indicated other means of financial support. Only one student appears to be completely self-supporting.

**Career Goals:** Six students respond they want to teach. The department will support this, subject to the qualifications for teaching assistants and budget constraints. Eight students respond they want to conduct research. Only three appear to have a concrete idea of their career goals.

**Program Improvement:** Several interesting ideas and issues were brought up.

- To switch to another research topic after a proposal has been accepted, students should petition their committee, through their advisor, to present another proposal. After the new proposal is presented, the committee can decide if a new admission to candidacy form must be submitted to the Graduate Programs office (this would mean re-establishment of residency.) In general, unless the new proposal is orthogonal to the old, re-admission to candidacy would not be required.
- The university establishes a minimum of 24 credits (8 courses) of formal course work that must be completed by Ph.D. students.
- The comprehensive exam is given to master's level students. The faculty do not believe it is too hard. Doctoral level students should have little concern in their confidence in passing the exam if they truly expect to earn the degree.

From experience with comprehensive exam requirements by other schools with department of computer science, we do not believe there are too many subjects in the breadth portion of the exam.

The department head is concerned that the depth portion of the comprehensive examination may not be challenging.

- Retention and recruiting of good faculty is difficult and an on-going activity of the department. Competition for Computer Science faculty is intense. Did many Ph.D. students meet the six faculty candidates interviews in Spring 2002?
- Good teaching is crucial. The faculty has discussed peer review of teaching and will implement some form of peer review in the coming academic year. Faculty loads interfere with good teaching and good research. The department needs additional faculty and is seeking administrative support to increase our numbers.
- The department will give more attention to scheduling of classes so that no faculty will have teaching assignment when the “tea” and Ph.D. seminar are offered. The “tea” will be continued in the next academic year.
- The department’s curriculum committee will look into the idea of requiring enrollment in the Ph.D. seminar.
- The department has had an on-going seminar every Friday at noon for years. There are several very interesting presentation made each term. The lack of attendance by Ph.D. and other students and faculty is a concern.
- All Ph.D. students should be actively involved in a “network.” (a community). It is a concern that so many seem to be drifting and not helping to improve the program and thereby themselves.