Academic Assessment Plan
Department of Computer Science, College of Arts and Sciences

Doctor of Philosophy

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Steps 1 & 2 submitted: March 18th 2005
Steps 3 & 4 submitted: March 18th 2005
Steps 5 & 6 – to be completed in Fall 2006

1. Program goals
The mission of the Doctor of Philosophy Program in Computer Science is to provide the student with the foundation to build an independent scientific research program. Both a breadth-of-knowledge in computer science and expertise in a sub-discipline are instilled. An immersive approach to research is taken to provide the student with the necessary skills to interact and succeed within their respective research, academic, and learning communities. The program emphasizes scholarship, discovery, and innovation in computer science.

2. Learning objectives
Below are a list of cognitive capacities and skills, relating to Computer Science, that represent the learning objectives of the Doctor of Philosophy in Computer Science program.

- **Knowledge and understanding.** Demonstrate breadth-of-knowledge and understanding of essential facts, concepts, principles, and theories relating to advanced topics in Computer Science.
- **Expertise.** Demonstrate integrative and deep knowledge of essential literature, facts, concepts, principles, and theories relating to a chosen area of research.
- **Oral Communication.** Clear articulation of advanced research problems and their solutions. The presentation of general computer science topics in a learning environment.
- **Written Communication.** Develop and write publishable papers that clearly articulate advanced research problems and their solutions.
- **Researching.** Perform complete and through literature searches. Comprehension and critical evaluation of the extent to which a particular work relates to and/or contributes to a given field.
- **Scholarship.** Publish and participate in a chosen research community.
3. Approaches and Methods for Assessment

The Department of Computer Science will utilize a number of methods to assess how well students are meeting the stated learning objectives. These methods will be implemented and integrated vertically into the curriculum to allow a full spectrum view of student progress. Additionally, students work closely with a Dissertation Advisor who monitors their progress regularly.

The methods that will be used for assessment include the following:

- Entrance requirements for the Doctoral Program to assure basic prerequisite knowledge and ability
- Ph.D. Preliminary Examination to assess breadth of knowledge learning object
- Plan of Work to support and assure expertise learning object
- CS 89191 Doctoral Seminar to support communication, knowledge, and research learning objects
- Doctoral Seminar presentations to assess oral communication learning object
- Candidacy Examination to assess oral communication, research, and expertise learning objects
- Prospectus Approval to assess written communication, research, and expertise learning objects
- Dissertation defense to assess learning objects
- Exit Survey to assess learning objects

4. Measures for Assessment

A number of measures and metrics can be derived from implemented assessment methods, enrollment data, graduation data, and student data (i.e., grades and transcripts). As the duration of the assessment reaches the point where complete data for the degree program is acquired additional measure and metrics can then be examined.

The measures that will be used in the first stage of assessment are the following:

- Time to submit Plan of Work
- Changes and deviations from Plan of Work
- Participation and feedback from Doctoral Seminar
- Completion rates for Doctoral presentations
- Preliminary Examination completion rates
- Candidacy Examination & Prospectus completion rates
- Student GPA
- Conference presentations and participation
- Course lecturing and student/faculty evaluations of teaching
- Publications in peer-reviewed journals and conferences
- Career & position (academic institution, industry, government)
- Correlate Exit Survey results with time to admission data, completion time, and Plan of Work.
- Completion estimates (from Plan of Work) versus actual completion times
5. **Results & Findings**
First set of initial findings to be presented in Fall 2006.

6. **Improvement**
Initial improvements will be presented in Fall 2006, however little data will be acquired by that time frame and as such changes to this plan may be premature.