

Computer Sciences Department
Assessment Plan
May, 2006

OVERVIEW

The Computer Sciences Department has not had a formal Assessment Plan in place for some years. We do, however, carry out regular assessment activities, as described below in the section titled *Current Assessment Procedures*. This document serves to formalize our assessment process: it lays out our current activities plus the modifications and extensions that we propose to implement, with an explanation of how those updated activities will help our department to better meet its goals for our undergraduate and graduate programs.

GOALS OF THE UNDERGRADUATE AND GRADUATE PROGRAMS

The mission of the Computer Science Department's undergraduate program is to prepare students for CS jobs or graduate studies in Computer Science. Fulfilling this mission involves ensuring that our majors receive a rigorous and broad Computer-Science education that will make them attractive to prospective employers and to graduate schools.

The goals of the department's graduate program include preparing Masters students for successful CS careers, and preparing Doctoral students for successful research and teaching positions, either in industry or academia.

In addition to these academic goals, the Computer Sciences Department is committed to increasing the representation of women and minorities in Computer Science through outreach programs designed to attract under-represented groups to Computer Science (at the undergraduate level) and special efforts to ensure that we provide an environment in which women and other under-represented groups are encouraged and supported.

Finally, given the importance of computing and Computer Science to our national security and economy, we strive to ensure that all qualified students interested in Computer Science are able to succeed in our program, and especially to ensure that strong students, with the potential to make significant contributions in this area, are attracted to and retained in our program.

CURRENT ASSESSMENT PROCEDURES

Assessment and re-evaluation of our academic programs at both the undergraduate and graduate levels have included the following activities, which are divided into informal and formal procedures.

Informal Activities

1. Faculty continually evaluate the courses they teach, and update them to reflect the state-of-the-art in a rapidly evolving field.
2. As the field of Computer Science evolves and expands, “holes” in our programs are identified and appropriate new courses are introduced.
3. Faculty maintain ties to both local and national companies and research labs; contacts at those places provide regular feedback on their perceptions of the quality and level of preparedness of our students.

Formal Activities

1. Our current Associate Chair, Susan Horwitz, has a four-year grant from the National Science Foundation that includes funds for the assessment of our introductory course (cs302) and the WES-CS (Wisconsin Emerging Scholars) program that Professor Horwitz initiated two years ago to try to attract more under-represented groups to Computer Science. Those funds are used to support a half-time evaluator from the LEAD Center, who gathers data about why students enroll in cs302 and WES-CS and how taking those courses affects their interest in Computer Science.
2. Our Associate Chair also gathers data each year tracking the percentage of undergraduate and graduate degrees granted to women, the percentage of women who apply to our graduate program, those who receive offers (with and without guaranteed support), and those who accept our offers. This data is presented to the Computer Science faculty at our annual Faculty Retreat.
3. We have an active Course and Curriculum Committee that regularly reviews our undergraduate curriculum and proposes changes. This led to a reorganization of our major requirements about a year ago. The committee also works closely with other departments (e.g., in the College of Engineering) to update courses required by both Engineering and Computer Sciences.
4. Our Associate Chair works closely with our Faculty Associates to discuss curriculum issues in our introductory courses, and to provide them with regular feedback

on their teaching.

5. Teaching evaluations of Assistant Professors are carried out regularly by senior faculty as part of the annual-review process.
6. Surveys are distributed to undergraduate majors at department-sponsored lunches each spring to assess perceptions about climate issues, and to find out whether graduating seniors have been successful in finding jobs or being accepted to graduate school.
7. Graduate students are asked to fill out exit surveys that provide information about the jobs they have accepted and about their experience in our department.

ASSESSMENT GOALS AND ACTIVITIES

Our faculty are world-class researchers and educators who produce students at all levels who are well-prepared to contribute to the national IT effort. This claim is born out by our consistent ranking as a top-ten Computer-Science department, by the consistently high scores our faculty receive on the teaching evaluations that are filled out by students in every class at the end of every semester, by the high quality of the graduate programs that accept our undergraduate majors, and by the first-rate companies and universities that hire our graduates. Given all of these positive indicators, we believe that our current formal and informal assessment activities are sufficient to ensure that we will continue to meet the academic aspects of our goals: providing an outstanding education to both undergraduate and graduate students.

It will be somewhat more challenging to assess how well we are meeting our goals of increasing participation of under-represented groups, retaining our strongest students, and ensuring that our program meets the needs of students starting with different levels of previous Computer-Science experience.

The new assessment activities that we propose are as follows:

1. To determine whether our programs are successful at increasing participation of under-represented groups we plan to submit a new grant proposal to the NSF that includes funds for the assessment of several new initiatives that will begin next year.
2. To determine whether we are successful at retaining strong students in Computer Science, we will use the University's Data Warehouse to categorize students by their final grades in cs302, by the number of Computer Science courses they take, and whether they declare/complete a Computer Science major. If we find that a disproportionate number of strong students (students who receive an A or an AB in cs302) do not take more courses and/or do not declare Computer Science majors, we will follow up with further investigations, possibly including surveys of previous and/or

current cs302 students to find out why these students choose not to continue in Computer Science.

3. To determine whether our current policies for students coming to college with significant previous Computer-Science experience—in particular, those with AP Computer-Science credits—serve those students well, we will start by gathering data: what scores do those students get on the AP exam, what are the first Computer Science courses they take, what grades do they get, do they go on to take more Computer Science courses and to declare a Computer Science major? Follow-up assessment activities will depend on the results of these initial investigations.

These assessment activities will be carried out by Faculty Associate Perry Kivolowitz, working with the current Associate Chair, and reporting to the department chair.