

# Computer Science Department Assessment Plan

APPROVED 10/15/2012

## 1. Introduction

The purpose of this plan is to help the department and its faculty to obtain regular information on student learning, in order to adjust program and course objectives, content, course materials, and classroom methods. Assessment planning and implementation are required for NEASC and ABET accreditation.

This five-year plan follows a 2008 assessment plan, a 2010 assessment report, and a section on assessment in the Computer Science Department Spring 2011 review. It is to be revised as it is implemented. It extends the implicit plans that have been implemented for the past several years to draft and revise program and course objectives and to gather semester reports by faculty on student performance in course sections. We provide below for assessment at three levels: *department*, *program*, and *course*. The department decided on mission and program-objectives documents in June, 2012. It approved course objectives in 2009 and revised them in May, 2012.

The CS Department offers the following academic programs: a Computer Science major with two concentrations (Computer Science-General and Information Systems); three minors (Computer Science, Information Systems, and Information Technology); and four certificates (IT Fluency; Computer Programming Languages; Network and System Administration and Management; Software Engineering). Five tenured faculty members were available in spring 2012 (one of whom is on sabbatical in fall 2012). This plan is based on the assumptions that a sixth tenure-track department member will join the department in Fall 2013, and that software tools described below will be available.

This plan is divided into descriptive sections (1-5) and an implementation section (6).

## 2. Annual department review and assessment report

Each year, the Department will review fulfillment of its mission and selected objectives, as well as selected programs and courses. It will also review mission and objectives documents in light of the year's experience. These reviews will begin with faculty reports on all course sections offered for the academic year. The report will include:

1. What assessment tasks were undertaken, and why
2. What information was found
3. How the department plans to use this information
4. An evaluation of assessment process itself

### **3. CS-G capstone experience**

The department decided in spring 2012 that the capstone experience, for the CS major General Studies concentration, will consist of the semester projects in CSCI 465 Operating Systems Internals and CSCI 460 Theory of Computing. Project descriptions exist for these courses but they have not previously been identified as capstone experiences.

Required for department approval are: a proposed description of this capstone experience; assessment rubrics for these projects; and a mapping of aspects of these projects to program objectives. Projects may be made public or not, as student artifacts, at the discretion of the two course instructors. The department will add senior status to the prerequisites of these two courses.

### **4. Course assessments**

Each course will be assessed by an instructor at least once per three years to enable the instructor to consider course changes. The following steps will implement the course assessment process, based on the lists of objectives approved in May, 2012:

1. The course review schedule at the end of Section 6 will be filled, based on the schedule for review of department program objectives (Section 5).
2. The department will request that course coordinators draft matrices for each course, mapping course objectives to department program objectives, and report on these. As part of this process, course coordinators are invited to propose changes in objectives lists.
3. The department will explore software tools to support assessment, including spreadsheet-based tools that would import quiz results from Blackboard.
4. Department faculty members will describe a way to assess at least one objective for at least one course based on student artifacts. Yardsticks and methods are at the discretion of faculty members.

### **5. Assessment of department program objectives**

Each year, the department will assess one program objective. We will start with the objective that relates most closely to the programming component of the CS program. Each year, courses that best meet the year's objective will be assessed. The department program objectives will be assessed using the schedule found in Section 6.

The process will include assessing outcomes associated with each objective and determining which courses contribute to satisfying the objectives; choice of assessment tools and methods; and definition of mechanisms for tracking progress in learning across sequences of courses.

Each year, the department will decide which student artifacts to collect and review. Based on the assessment of each objective, the department will discuss possible program and course improvements as well as possible revisions in the lists of objectives and supporting outcomes.

## 6. Implementation timeline

The following initial schedule (Table 1) implements the above plan; to be updated in spring 2013.

<b>Date</b>	<b>Item</b>
Fall 2012	For courses selected for Fall 2012 that contribute to Program Objective 1 (“Confidently create effective, efficient, and secure computer-based solutions to problems”), assessment tasks 1-4 (Section 4)
Spring 2013	Draft capstone description
Spring 2013	For courses selected for Spring 2013 that contribute to Program Objective 1, assessment tasks 1-4 (Section 4)
May 2013	Annual review and assessment report
AY 2013-14	<ul style="list-style-type: none"> <li>• Course assessments per table 2</li> <li>• Assessment of Objective 3: Communicate ethically and effectively while respecting intellectual property rights</li> </ul>
May 2014	Annual review and assessment report
AY 2014-15	<ul style="list-style-type: none"> <li>• Course assessments per table 2</li> <li>• Assessment of Objective 4: Enhance the achievement of a team as a team member</li> </ul>
May 2015	Annual review and assessment report
AY 2015-16	<ul style="list-style-type: none"> <li>• Course assessments per table 2</li> <li>• Assessment of Objective 2: Professionally critique computer-based solutions to problems</li> </ul>
May 2016	Annual review and assessment report
AY 2016-17	<ul style="list-style-type: none"> <li>• Course assessments per table 2</li> <li>• Assessment of Objective 5: Maintain professional currency in a constantly advancing field of endeavor</li> </ul>
May 2017	Annual review and assessment report