Department of Computer Science
Report of Use of Assessment Results
For Academic Year 2009-2010

Goals and Outcomes:

Goal 1: To provide students with a broad understanding of computer science, as recommended in nationally accepted program guidelines.

A. *Expected Outcome: Computer Science seniors will compare favorably to graduates to other Computer Science programs, nationwide.*

   Assessment: At least 75% of the SLU graduating computer science majors taking the senior comprehensive exam as part of the Computer Science 481 seminar course will pass at the "C" level or higher.

   In Spring 2010:
   Seven of the 15 (47%) of the students taking the exam passed at the "**A**" level.
   Seven of the 15 (47%) of the students taking the exam passed at the "**B**" level.
   One of the 15 (7%) of the students taking the exam passed at the "**C**" level.

Goal 2: Computer Science majors will understand software development principles and will be able to successfully apply them.

A. *Expected Outcome: Computer Science students in CMPS 411, Software Engineering, will have felt adequately prepared to tackle a major software development project.*
   Assessment: 75% of the students will indicate, on the course exit survey, that they felt that their freshman, sophomore and junior-level coursework at least "adequately prepared" them for the project in CMPS 411.

   In Fall 2009, sixteen surveys were completed. Of these, 75% of the students responded that they felt adequately or more than adequately prepared for the CMPS 411 course. Four students did not feel adequately prepared.
   These indicated a lack of preparation in real world coding, on-your-on study, hardware, php and JavaScript.

B. *Expected Outcome: Computer Science students in CMPS 411, Software Engineering, will successfully complete a major software development project.*
   Assessment: 75% of the students will earn a grade of "B" or better on the project.

   16/19 (84%) students earned a grade of "B" or better on the project.

Goal 3: Computer Science graduates will feel adequately prepared for computing careers or for graduate studies in computer science.

A. *Expected Outcome: Computer Science graduates will feel adequately prepared for a career in computing or for graduate studies in computer science or both.*
Assessment: In the "Survey of Undergraduate Alumni", 75% of computer science graduates will be Satisfied or Very Satisfied with the "Overall Quality of Your Degree Program".

B. *Expected Outcome: Computer Science graduates will feel that their course work related directly to their jobs or their graduate studies or both.*
Assessment: In the "Survey of Undergraduate Alumni", 75% of computer science graduates will respond, that the concepts they learned in the degree program courses were relevant as either satisfied or very satisfied.

In the *2008-09 Survey of Undergraduate Alumni*, the response rate was very low, so the results are not conclusive for this period. To improve response rates in the future, we have started a Computer Science Alumni Club to maintain contact with graduates in the field. We expect this to improve response rates for next year's survey.

Discussion:

Goal 1:

The questions on the comprehensive exam are categorized by Program Outcomes, allowing us to assess which outcomes are not being achieved.

A *An ability to apply knowledge of computing and mathematics appropriate to the discipline*
Student Average=8/15

B *An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution*
Student Average=13.6/15

C *An ability to design, implement and evaluate a computer-based system, process, component, or program to meet desired needs*
Student Average=13.6/15

D *An ability to function effectively on teams to accomplish a common goal*
Student Average=14.1/15

G *An ability to analyze the impact of computing on individuals, organizations and society, including ethical, legal, security and global policy issues*
Student Average=11.2/15

Clearly, outcome A requires the most work. This is not too surprising, since outcome A contains the most mathematical and theoretical questions on the test. We have recently offered CMPS393 (Fundamental Algorithms), which covers certain theoretical aspects of the field. We hope this

will better prepare students for the theoretical portions of this exam. We will continue to discuss ways to better provide students with the mathematical maturity required of the field.

Goal 2:
Comments from students about areas in which they felt adequately or more than adequately prepared include:

- Ability to research and start with no prior knowledge, learn and build something from the ground up
- Ability to learn from mistakes
- Plenty of theory and preconditioned scenarios that work, so good background knowledge
- Html and system design
- Team dynamics and group projects
- Graphics class was very helpful, as well as 285
- Database foundation
- Programming foundation
- Php, SQL, html, javascript, and C# coding

The assessment committee has reviewed these findings, and notes the following:

- Students seem confident in their ability to do research, and are not afraid to begin new systems involving software with which they are unfamiliar. This is due in part to their good knowledge of theoretical foundations and coursework from previous courses.

Goal 3: In the *2006/07 Survey of Alumni*, 63% indicated that his/her education was either Effective or Very Effective in preparing him/her for employment or graduate school.

Actions to be Taken:

1) Measure improvement on theoretical portions of 481 exam for students who took CMPS393.
2) To better prepare students for "real-world" coding (see Goal 2A), we will invite people from industry to speak to students and make sure students stay current with latest technology.
3) Across the department, increase the number of course projects involving group interaction and communication skills.
4) Initiate an annual Computer Science Symposium for students to present their work, in order to foster their research skills and encourage publication in peer-reviewed journals and conferences.