



To: Mark Weiss, Associate Director, SCIS

From: SCIS Undergraduate Committee:

Tim Downey, Deng Pan, Norman Pestaina, Nagarajan Prabakar (chair), Jinpeng Wei

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The SCIS Undergraduate Committee has completed its consideration of the annual assessment report for 2011. The committee's recommendations are contained in the attached document.

Undergraduate Committee's Recommendations on the 2011 Assessment Report

In this document, the relevant sections of the assessment report are reproduced (in italics) to facilitate referencing to the assessment report. The following acronyms are used throughout the report:

AC – Assessments Coordinator
QEP – Quality Enhancement Plan
SAC – Subject Area Coordinator
SACS – Southern Association of Colleges and Schools
UGC – Undergraduate Committee
UGPD – Undergraduate Program Director

III. SURVEY RESULTS

A. Course Outcomes Survey by Instructors

Subject Area: Communications & Ethics (Reported by Tiana Solis)

CGS 1920 Introduction to Computing

SAC Recommendation CGS 1920: The course name discourages students from taking the course, it implies very basic skills that they felt they already possessed. May be we should rename the course to be “Undergraduate Computer Seminar” or something else.

The UGC recommends to change the name and the new name has to be decided.
(Suggestion for a new title: “Undergraduate Computing Seminar”)

CGS 3092 Professional Ethics and Social Issues in Computer Science

SAC Recommendation CGS 3092: Continue the process of replacing this course with the proposed three credit hours course which will count toward the Global Learning requirement.

The UGC recommends to continue the process.

Subject Area: Computer Organization (Reported by Nagarajan Prabakar)

COP 3402 Fundamentals of Computer Systems

SAC Recommendation COP 3402: Evaluate the proficiency level for each of the course outcomes in consultation with faculty who taught this course and change it appropriately.

UGC recommends to rephrase the outcomes.

COP 4610 Operating Systems Principles

SAC Recommendation COP 4610: Enforce the prerequisite Programming III for all students enrolled in the course (including non-CS majors). Also, the faculty needs to specify clearly about the expected C proficiency at the very first class. Furthermore, students may be given a quiz (about 10-20 short questions) in C during the first week of the term so that each students can gauge his/her ability to cope with the projects.

UGC recommends to replace Computer Engineering majors course requirement (COP-4225 or COP-4226) with COP-4338.

Subject Area: **Computer Systems** (Reported by Shu-Ching Chen)

COP 4540 Database Management

SAC Recommendation COP 4540: I recommend no changes to the outcome of this course. To better cover the number 5 outcomes, I suggest adding stored procedure to the syllabus.

UGC recommends to add stored procedures to the syllabus.

Subject Area: **Foundations** (Reported by Xudong He)

MAD 2104 Advanced Windows Programming

MAD 3512 Introduction to Theory of Algorithms

SAC Recommendation MAD 2104 & MAD 3512: More student evaluations and instructor appraisals are needed in two Mathematics Department courses to make the assessment more meaningful and accurate.

The changes approved for this course are effective from Spring'10 and the course syllabus and the catalog description have been updated. See below AC-01 recommendation.

Subject Area: **Programming** (Reported by Tim Downey)

COP 3337 Computer Programming II

SAC Recommendation COP 3337: Programming II instructors should be strongly encouraged to cover all of the objectives for Programming I, especially Stacks & Queues and the Java Collections.

UGC recommends to defer this till UGC discusses Programming I & Programming II.

COP 3530 Data Structures

SAC Recommendation COP 3530: The low perception of the book can be attributed to the difficulty of the course. The book is one of the most popular books on the subject. We must stress to the COP3337 instructors to emphasize interfaces when possible and to be sure to cover recursion when covering stack, queues and linked lists.

UGC recommends to defer this till UGC discusses Programming I & Programming II.

COP 4338 Computer Programming III

SAC Recommendation COP 4338: The course is being redesigned. The new outcomes should be posted to the CES. The students do not have UNIX in the curriculum; hopefully, the redesigned course will realize this and not expect students to have experience in it.

UGC recommends to update the outcomes according to the new experimental syllabus and some introduction to Unix must be taught in this course.

Subject Area: **Software Engineering** (Reported by Peter Clarke)

CEN 4010 Software Engineering I

SAC Recommendation CEN 4010: There is a need to have students take a programming course that contains web-based programming and learning technologies such as Tomcat, Apache Server, PHP/JSP/ASP

UGC recommends Software Engineering faculty to meet with Jason and decide the coverage of web-based programming in Net-centric course.

SAC Recommendation CEN 4010:

- 1. If the senior project course is to be taken seriously then SCIS must find a way to get faculty involved in the course and the faculty must dedicate the time and effort in order for the course to be a success. The course cannot be treated solely as a way for undergraduate students to work on research projects or to do “on the side” projects for faculty members.*
- 2. There area of ethical issues needs to be adequately covered in a prerequisite course. Students are creating software artifacts and must know how to acknowledge other people’s work being used, and how to write the appropriate licenses to protect their own work. In addition, it is important for them to have some understanding of the privacy and security issues when they are writing software in some domains, e.g., healthcare.*
- 3. Students need additional practice in both written and verbal communication.*

UGC recommends to review syllabus and framework, and refers to AC-10 recommendation.

B. Assessments Coordinator’s Recommendations

AC-01: As the Foundations Area Coordinator indicated, the number of responses to the MAD 2104 and MAD 3512 Course Outcomes Surveys are too low to permit meaningful evaluation. It is noted elsewhere that student participation is voluntary, and outside of regular class hours. The feasibility of doing in-class evaluations should be considered. Failing that, other assessment means must be employed for the MAD 2104 and MAD 3512 courses on a regular schedule.

UGC refers this to the UG Program Director (UGPD).

AC-02: The average ratings for the Value and Coverage of the Course Outcomes are 4.51 and 4.40 respectively (Please refer to Table 1). In fact, only 3 of 44 ratings fall below 4.00. It seems pointless, and possibly counter-productive, to maintain the acceptability level at 3.75. SCIS should consider raising the minimum acceptable rating for both Value and Coverage of Course Outcomes to at least 4.00.

UGC agrees with the recommendation to raise the minimum level of ratings to be 4.0

AC-03: The Course Outcomes ratings for COT 3420 are 3.86 (Value) and 3.53 (Coverage), the latter being well below the acceptability threshold of 3.75. It is clear that students believe that the outcomes of this course are not adequately covered. Further, the Subject Area Coordinator’s report for previous assessment cycles clearly indicate that the Course Outcomes are not followed consistently by the various instructors of COT 3420. The content and delivery of this course must be clearly specified and followed by all instructors. It would not be untimely to consider

alternative implementations of COT 3420 to include knowledge units from applied logic areas, for example artificial intelligence, knowledge-based reasoning, robotics, game playing, etc.

UGC recommends UGPD to form a committee to resolve COT3420 issues with high priority.

AC-04: It is challenging to perform meaningful assessment of Student Outcome a) **Demonstrate proficiency in the foundation areas of Computer Science including mathematics, discrete structures, logic and the theory of algorithms.** First, SCIS does not deliver **mathematics** in its courses. Second, **logic** is included in **discrete structures** and other courses. **This recommendation is to restate Student Outcome a) as **Demonstrate proficiency in foundation areas of Computer Science including discrete structures, formal languages and automata.****

UGC recommends to restate Student Outcome a) as "Demonstrate proficiency in foundation areas of Computer Science including discrete structures, logic, formal languages and automata".

AC-05: SCIS has explicitly incorporated direct measures into its assessment processes. The broad generality of the Course Outcomes of many of the BS-CS required courses does not lend for focused outcome assessment via course-embedded assessment strategies. To facilitate more focused assessment and evaluation, finer granularity of outcomes is desirable. It is proposed to refine the Course Outcomes of all required and elective courses of the BS in CS into Learning Outcomes of sufficient granularity to support course-embedded assessment. Some examples of the refinement sought are provided as Appendix K to this report.

UGC refers this to UGPD for implementation.

AC-06: There are anomalies in the assessment indicators of Student Outcome b). In particular, the indirect indicators of COP 3530 are very high while the course-embedded indicators are very low. It seems necessary to implement processes for course-embedded assessment that a) ensure instructor-neutral assessment instruments, b) promote consistency across repeated applications of an assessment procedure, and c) specify how to respond to the assessment indicators.

UGC refers this to UGPD for implementation.

AC-07: Very little new data is available from the Alumni Survey, 3 over the current assessment cycle. The usefulness and administration of the Alumni Survey should be evaluated.

UGC refers this to UGPD for consideration.

AC-08: It is impossible to conduct meaningful assessment of the Program Educational Objectives without collecting data on the accomplishments of our graduates in the workplace or in academia. This is also implied in a statement of concern in our most recent statement of accreditation. It is essential that SCIS implement and execute processes of gathering job placement and graduate attainment data.

UGC recommends UGPD to create a formal scheme to establish social network connection with our graduates and this needs to be a job function to maintain continuity. This is very important for accreditation.

AC-09: Adoption of direct assessment strategies may entail consistent course administration activities more so than hitherto obtained. For example, maintaining a pool of multiple-choice questions for course-embedded assessment, application of portfolio evaluation rubrics and evaluation of assessment data on an on-going basis. SCIS may consider instituting course coordination by designated faculty members, and re-evaluate the efficacy of subject-area coordination as it is currently defined.

UGC refers this to UGPD for consideration.

AC-10: There seems to be a need to improve the delivery of CIS 4911 Senior Project. The Software Engineering SAC has made some recommendations for doing so. A majority of students in CIS 4911 have had little prior project management experience, and are sometimes unfamiliar with the application domain of their project. SCIS should consider incorporating an instructional component into this important course to include the following: 1) domain-specific knowledge and testing strategies, 2) project management, 3) proprietorship-related issues, 4) technical presentation critique.

UGC recommends UGPD to form a committee to resolve Senior Project issues with high priority.