

**Southern Utah University  
Applied Science Department  
Report of Assessment Plans for 2002-2003**

**Divisions:**     **Agriculture  
Family and Consumer Sciences  
Geographic Information Systems  
Information Systems Applications**

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**Agriculture Assessment Criteria and Activities**

1. Students will be required to receive a passing grade of C- or better in all courses applied to program completion based on assessment measures applied to each course. Course embedded activities and co-requisite labs will enable students to demonstrate their competency in applications appropriate to each course.

*Was this assessment criterion/activity implemented?* **Yes**

*Was this assessment criterion/activity achieved?* **No (one student did not meet grade criterion)**

*What were the results?* The following statement is new to the agriculture section of the university catalog: “Any course with a grade below a C- must be retaken and a better grade achieved. If a grade improvement of a C- or better is not earned after repeating the course, the student may petition the division faculty for a grade waiver.” The department chair declined to sign any graduation worksheets where a student received a grade less than a C- in a course applied to program completion. During 2002-2003, one freshman student did not meet the C- grade requirement in more than one course. The university has notified him that he is required to withdraw.

Virtually every laboratory course makes use of the university farm or shared on-campus laboratory resources and has a competency-based demonstration component.

*How will the results be used to improve the curriculum and/or pedagogy of the program?* The division now has baseline GPA information about graduates from the division exit surveys. From this, trends in overall GPA can be studied with potential for raising the minimum grade criterion from a C- to a C in the future.

The division forum will be used for dialog about the academic rigor of certain courses as it pertains to student grade achievement. Some experiential component will (in 2003-2004) be integrated into *both* non-laboratory general education courses offered by the division. Consideration is being given to developing a capstone skills competency test for those majoring in agriculture.

2. (a) Several agriculture classes have laboratories or are lab intensive courses. Labs are graded separately (from co-requisite lectures) and involve student projects requiring them to gather data, analyze results, and reach reasonable conclusions in order to satisfy course requirements.
- (b) Interested students may engage in independent undergraduate research, directed studies, and/or experiential learning activities, such as internships and practicums.
- (c) Several theories, protocols, and standard practices will be applied and reinforced through hands-on applications.

*Was this assessment criterion/activity implemented?* **Yes**

*Was this assessment criterion/activity achieved?* **Yes, but not to the extent desired.**

*What were the results?* All laboratories are letter graded separately from the co-requisite lecture and the same applies to laboratory intensive courses. Scientific inquiry protocols are integrated into some courses from which interested students can “grow” an undergraduate research/directed studies project. Twenty-one students were involved in various internships off-campus during the 2002-2003 AY. Several internships evolved into employment opportunities or experiences that were valuable in finding employment. While undergraduate research/directed studies courses are not required, two projects were formally presented this year. Over the past two years, 57% of students accepted into agriculture graduate or veterinary schools completed at least one independent scholarly project prior to acceptance. All grant requests focus on acquiring proper equipment to be applied to hands-on reinforcement of theories, protocols, and standard practices.

*How will the results be used to improve the curriculum and/or the pedagogy of the program?* Equipment requests will continue to focus on applications to student experiential learning. Several agriculture faculty meetings have been devoted to developing a strategic plan for the division which includes (1) increased number/variety of internships, (2) more agricultural outreach programs, (3) more practical student projects, (4) more scholarly protocols in classes, (5) increased undergraduate research, and (6) better use of farm resources (personnel and facilities) for student independent work.

The Agriculture Division Advisory Committee is developing an agriculture career “shadowing” program for students.

3. (a) At least one course at each level requires a significant writing component.
- (b) Several laboratory courses require written and oral reports, and abstracts.
- (c) Student directed study projects *and* undergraduate research projects require an oral presentation before an audience of faculty, staff, and peers.

*Was this assessment criterion/activity implemented?* **Yes**

*Was this assessment criterion/activity achieved?* **Yes**

*What were the results?* At least one course at all levels requires a significant amount of writing in the form of laboratory reports, scientific abstracts, papers and essay exams. Directed studies projects were presented to the AGSC 1990, leadership class. Undergraduate research students present their projects at the annual Student-Faculty Scholarship Day. One agriculture project received a 2<sup>nd</sup> place award this year. Former UG research students have delivered invited presentations to classes preparing to embark upon a class scholarly project.

*How will the results be used to improve the curriculum and/or pedagogy of the program?* After curriculum review, a single course in written business communications or technical report writing will remain part of the program core. Students will be made aware of the benefits of independent scholarly work in realizing a career goal or admission to professional schools. Students will be required to defend their UG scholarly work at an appropriate venue to receive a grade higher than a C. Directed studies students will receive an incomplete grade until their project is presented and defended. Consideration is being given to adding the leadership course to the program core. By so doing, students will be required to communicate effectively with peers and direct the activities of others.

4. (a) The exit survey will indicate that at least 75% of graduating students will agree that the quality, availability and diversity of course and lab offerings were appropriate.
- (b) At least 75% of graduating students will agree that they are well prepared for post-graduation plans.
- (c) Students will rate those courses that (in their opinion) best served their choice of agriculture division goals under that section of the assessment document.
- (d) At least 75% of students who actively seek employment in the field will have jobs within 6 months of graduation.

*Was this assessment criterion/activity implemented? Yes*

*Was this assessment criterion/activity achieved? (a) No (diversity and time of day availability not satisfied)*

**(b) Yes**

**(c) Yes**

**(d) Yes**

*What were the results?*

- Eighty percent agreed or strongly agreed that the quality of course offerings was appropriate.
- Seventy-three percent agreed or strongly agreed that the availability (time of day) of course offerings was appropriate.
- One hundred percent agreed or strongly agreed that the availability (not full) of courses was appropriate.
- Sixty-seven percent agreed or strongly agreed that the diversity of course offerings was appropriate.
- Ninety-three percent agreed or strongly agreed that the lab experiences were appropriate.
- Ninety-three percent indicated that their degree program well prepared them for their post-graduation plans.
- Although the date of this report is less than one month from graduation, 82% who have actively sought employment are known to have jobs.

Nine core courses were rated on a 1-5 scale with 1=poor and 5=excellent. The average rating was 4.18 (83.6%) = Above Average. No course ranked below 80%.

*How will the results be used to improve the curriculum and/or pedagogy of the program?* These results will be central to the ongoing discussion on strategic planning for the agriculture program. “Raising the bar” on those criteria already exceeded might be desirable.

However, in purview with the fact that this is the first assessment year for agriculture as a discrete academic unit in the AS department, such a move might be precipitous...not enough data to indicate a trend. Certainly, the fact that the program fell short of the target for diversity of course offerings is going to pose challenges since the trend is toward streamlining the program.

It stands to reason that the assessment instrument may be modified to provide more substantive information about why the diversity of offerings is an issue. Faculty will consider the idea of setting a target minimum average rating for all core courses. Employment data will be modified as more information is gathered over the 6-month follow-up period.

### **Family and Consumer Sciences Assessment Criteria and Activities**

1. FCS students will pass their FCS classes with a minimum grade of C, as evaluated by assessment measures within each course. FCS courses will include activities that enable students to demonstrate a reasonable level of proficiency in the skills they have learned.

*Was this assessment criterion/activity implemented?* **Yes**

*Was this assessment criterion achieved?* **No**

*What were the results?* **Fall semester 2002, ten FCS students did not receive a grade of C or higher in their FCS division course offerings.** Two who did not meet the criterion signed up to repeat the courses in the fall semester of 2003; seven either showed no transcript past fall 2002 or signed up for classes but did not include the FCS courses that needed to be retaken; and, one student’s transcript could not be accessed on the SIS system. **Four students did not meet the criterion for spring semester 2003.** Of the four, one is repeating the pertinent course in the summer; two have not signed up for any classes past spring; and, one has a fall schedule but it does not include the course that needs to be repeated. Reviewers should note that the number not meeting the grade criterion for 2002-2003 (14) is eight fewer than in 2001-2002 (22). Note: The number failing to meet this criterion represents student headcount (FCS majors) not achieving a C or higher in one or more courses, not the total number of grades below a C. That is, some of the same students failed to meet the criterion in more than a one course.

*How will the results be used to improve the curriculum and/or the pedagogy of the program?* This information will be made available to the divisional head to be brought to the divisional forum. Considering the size of the program, there doesn't seem to be an inordinately high number of students not achieving the minimum grade level and there is no trend tying failure to meet this criterion to any particular course. This information will also be made available to the new SAST advisor once he or she is on contract.

2. (a) At least 80% of graduating students will agree with the statement, "The quality, availability and diversity of course offerings and lab experiences in my program were appropriate," OR at least 80% of FCS majors enrolled in FCS 3400 will agree with the statement, "The quality, availability, and diversity of course offerings and lab experiences is appropriate."
- (b) At least 70% of graduating students will give a rating of "Above Average" or "Excellent" to a selection of key FCS courses, OR at least 70% of FCS majors enrolled in FCS 3400 will give a rating of "Above Average" or "Excellent" to a selection of key FCS courses.

*Was this criterion/activity implemented?* **Yes**

*Was this criterion/activity achieved?* **(a) Partially (graduate exit survey)**  
**No (FCS 3400 formative survey)**  
**(b) No**

*What were the results?*

- Ninety-two percent on the exit survey agreed or strongly agreed that the quality of course offerings was appropriate (74% FCS 3400 survey).
- Seventy-eight percent on the exit survey agreed or strongly agreed that the availability (time) of course offerings was appropriate (44% FCS 3400 survey).
- Seventy percent on the exit survey agreed or strongly agreed that the availability (not full) of course offerings was appropriate (59% FCS 3400 survey).
- Seventy-eight percent on the exit survey agreed or strongly agreed that the diversity of course offerings was appropriate (67% FCS 3400 survey).
- Ninety-two percent on the exit survey agreed or strongly agreed that the quality of laboratory experiences was appropriate (54% FCS 3400 survey).

Of ten key FCS courses rated by students on the exit survey, eight were ranked above average or excellent by at least 70% of graduates. This is an improvement over seven courses last year. Two of the same courses not meeting the criterion last year did not meet it again this year.

*How will the results be used to improve the curriculum/pedagogy of the program?* This information will be/has been made available to division faculty and will be part of a dialog at the division level. The fact that exiting students are considerably more satisfied with the quality, availability, and the diversity of class and lab offerings than formative students (FCS 3400) needs to be addressed.

Discussion time needs to be given to the fact that two courses did not meet criterion “b” above for two years in a row.

3. At least 80% of graduating students will agree with the statement, “I feel that my program has well prepared me for post-graduation plans.”

*Was this criterion/activity implemented?* **Yes**

*Was this criterion/activity achieved?* **Yes**

*What were the results?* Ninety-one percent agreed with the statement, “I feel that my program has well prepared me for post-graduation plans.” This is one percentage point higher than last year’s report.

*How will the results be used to improve the curriculum/pedagogy of the program?* The results will be made available to faculty through the division forum. Program review is an ongoing process with considerable revamping of FCS Ed. requirements anticipated in the coming year to better prepare students for timely completion of their degrees.

## **Geographic Information Systems**

Note: Numerical data (questions 1 and 5) represent only three exit surveys from students who during AY 2002-2003 completed the GIS interdisciplinary degree. For the year, additional students taking GIS courses integrated the classes into other academic majors where the technology is an integral/emerging component. Also, it should be noted that this is the first year an assessment instrument has been adopted by the GIS program as a discrete academic unit.

1. A minimum grade of “C” or better is required in each course used to complete the GIS certificate (including prerequisites), as evaluated by assessment measures within each course.

*Was this criterion/activity implemented?* **Yes**

*Was this criterion/activity achieved?* **Yes (qualified)**

*What were the results?* Those students who were tracked received the required grade of “C” in required courses and prerequisites. However, two students still show an “I” on their GEOG 4500, Research Projects (capstone). Because the “I” is non-graded, it neither supports nor contraindicates successful achievement of this criterion.

*How will the results be used to improve the curriculum/pedagogy of the program?* The results will be shared with those instructing GIS courses and those who received the “I” grades will be tracked.

2. Course embedded activities will require critical, logical and analytical thinking.

*Was this criterion/activity implemented ?* **Yes**

*Was this criterion/activity achieved ?* **Yes**

*What were the results ?* In AY 2002-2003, a new workshop was implemented to increase the student’s abilities in the analytical and statistical dimensions of GIS. The aforementioned workshop in GeoStatistics was offered for the first time in spring 2003. Through researching graduate programs offering GIS and remote sensing programs, it was deemed essential that SUU have some type of spatial statistics course.

*How will the results be used to improve the curriculum/pedagogy of the program ?* The GeoStatistics workshop is planned for the next (2003-2004) academic year. After an additional semester of delivering the course as a workshop, the curriculum will be assessed and consideration will be given to implementing the course as a regular offering.

3. Verbal, written and cartographic communication abilities are assessed through a capstone GIS project. Students are required to present their projects to all other GIS students and faculty, and participate in the undergraduate research poster presentation or a professional conference presentation (either verbal or poster).

*Was this criterion/activity implemented ?* **Yes**

*Was this criterion/activity achieved ?* **Yes (qualified)**

*What were the results ?* One student achieved first place in the SUU student/faculty undergraduate research poster presentation. The poster was later presented at the professional GSA conference. Two GIS students are completing a lab manual for a workshop on GIS programming with ArcObjects. Another student is scheduled to present his findings to a group of historians and conservation archaeologists the first of August 2003.

*How will the results be used to improve the curriculum/pedagogy of the Program ?* A basis supporting this criterion/activity has been established. Additional venues for future presentations may be explored.

4. Software, hardware, technical skills as well as social and verbal communication abilities are assessed through a follow up letter with the student internship supervisor or the supervising faculty when a student decides to complete undergraduate research. A student must choose between one of the options above to complete the GIS certificate.

*Was this criterion/activity implemented ?* **Yes**

*Was this criterion/activity achieved ?* **No**

*What were the results ?* There are students who are still “in the process” of completing their capstone projects and presentations. One student has not received his final letter from his internship advisor so a follow-up could not be completed. Student skills have, however, been demonstrated over the course of the semester through working closely with faculty and laboratory assistants.

*How will the results be used to improve the curriculum/pedagogy of the Program ?* Further criteria should be implemented to assure that follow-up letters are completed and required for a passing grade. Mentors and/or cooperators should be presented a “skills survey” for each student they supervise. The results of this survey may be used as an instrument to improve the program.

5. At least 75% of the graduating students will agree with the statement: “I believe that the GIS course work has prepared me and given me the skills to be competitive in finding a career or continue on to graduate school.

*Was this criterion/activity implemented?* **Yes**

*Was this criterion/activity achieved?* **No**

*What were the results?* Two of three respondents strongly agreed with the statement: “I believe that the GIS course work has prepared me and given me the skills to be competitive in finding a career or continue on to graduate school. One respondent disagreed with being prepared for employment and was neutral regarding being prepared for graduate school. The one negative respondent implied a desire for more offerings in the discipline.

*How will the results be used to improve the curriculum/pedagogy of the program?* These results, while based on small numbers for statistical significance, will be discussed in purview with other comments about graduate school and career preparation. With the small number of respondents, student subjective comments are likely more valuable than numerical objective data.

### **Information Systems Applications Assessment Criteria and Activities**

1. At least 75% of the graduating students will agree with the statement: “I believe that my program has well prepared me for career or baccalaureate plans.”

*Was this assessment criterion/activity implemented?* **Yes**

*Was this assessment criterion/activity achieved?* **No**

*What were the results?* While 82.8% of students surveyed either agreed or strongly agreed that the degree will increase their income potential, 48.2% agreed or strongly agreed that their degree program well prepared them for their post-graduation plans and 27.5% were neutral/unsure.

*How will the results be used to improve the curriculum or pedagogy of the program?* This being the first year of a split between the two-year and four-year programs, considerable accommodation had to be made to provide sufficient upper division IS/ISA courses to students matriculating under a previous catalog. The atypical number of neutral/unsure responses may be symptomatic of student confusion about seamless transition from the two-year to the four-year program and suggestive that IS and ISA faculty (and especially the new SAST advisor) need to decide how students can be better directed.

2. (a) ISA students will pass each of their courses with a minimum grade of C-, as assessed by testing measures within each course. ISA courses will include activities that will enable students to demonstrate a reasonable level of proficiency in the skills they have learned.  
  
(b) ISA students will be involved in completing secondary research, summarizing findings, and giving oral presentations.  
  
(c) Networking students will achieve certification in at least one industry Certification exam such as A+, CAN, MCP, Network+, Server+, etc., and will be encouraged to complete the CNE or MCSE.

(d) User support students will achieve industry certification (Microsoft Office User Specialist [MOUS]) in at least one software application such as Word, Excel, Access, etc.

*Was this assessment criterion/activity implemented?* **Yes**

*Was this assessment criterion/activity achieved?* **(a) No (two did not meet grade criterion)**

**(b)Yes**

**(c)Yes**

**(d)Yes**

*What were the results?* Two ISA students did not meet the required grade criterion of a C-. One of the students was required to withdraw from the university and the other is continuing but has not signed up to complete the pertinent ISA course. As verified through review of course syllabi and discussions with faculty, six courses require secondary research resulting in the creation of a written report and/or an oral presentation.

ISA graduates were required to present documentation of having successfully completed at least one industry certification in the appropriate application at the time their graduation worksheets were being distributed for signatures.

*How will the results be used to improve the curriculum/pedagogy of the Program?* The minimum grade criterion will be brought to the faculty forum. Considering the near achievement of the minimum grade component of this criterion, perhaps raising the standard to a grade of C might be considered.

3. At least 75% of the graduating students will agree with the statement: “The quality, availability, and diversity of course offerings within the ISA division were appropriate.”

*Was this assessment criterion/activity implemented?* **Yes**

*Was this assessment criterion/activity achieved?* **No**

*What were the results?*

- 68.9% agreed or strongly agreed that the quality of course offerings was appropriate...17.2% were neutral.
- 62.1% agreed or strongly agreed that the availability (times) of course offerings was appropriate...20.7% were neutral.
- 44.8% agreed or strongly agreed that the availability (sections) of course offerings was appropriate...24.1% were neutral.
- 55.2% agreed or strongly agreed that the diversity of course offerings was appropriate...27.6% were neutral.

Student comments indicated a desire for more hands-on applications, greater accessibility to the computer classrooms, more hardware-specific courses, and additional sections of some courses. The percentages of neutral responses are mentioned here because they are rather high and possibly more reflective of student response to the recent history of continual change within the program than student dissatisfaction with the pedagogy.

*How will the results be used to improve the curriculum/pedagogy of the program?* The ISA division will give careful consideration to these results. The fractionation of information systems into separately administered two-year and four-year programs without a succinct, clear transition mechanism can dilute (or give the appearance of diluting) the diversity and availability of course offerings. Considerable discussion must take place addressing the true meaning of the high number of neutral responses.