Information Systems & Technology (IS&T) Board of Regents Team Review
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Overview of the IS&T Curriculum Content
Developing the design and focus of undergraduate and graduate curricula is always an evolutionary process, especially in the information systems area. The IS&T program at Weber State, as it currently exists, appears to be designed for the entry-level business professional that will be involved in the planning, integrating, operating and/or improving business information technology systems. The program focuses on using information technologies to enhance an organization's business activities. Students analyze leading information technology trends and developments, determine the potential implications for business, and define strategies for creating and sustaining a competitive advantage—in the capstone business course—required of all IS&T majors.

As the information technology infrastructure in organizations grows increasingly complex, so does the need for business students with an advanced knowledge of the business world and information technology. According to the U.S. Bureau of Labor Statistics, technological advancements will boost the employment of computer-related workers. Based upon the trends and forecasts, the program reviewers' concur that the demand for graduates of Weber State's IS&T program will also increase.

Additionally, the emergence of "cyber-security" as a key issue facing most organizations will lead to exponential growth in this field—and also refutes any myths that jobs in this area are declining due to outsourcing/off shoring. Firms will increasingly be hiring cyber-security experts to fill key leadership roles in their information technology departments, because the integrity of their computing environment is of the utmost concern. As a result, there will be a high demand for future business students who are proficient in computer security issues.

The IS&T faculty are to be commended for their responsiveness and attention to change in the dynamic, changing field of IS, especially with the addition of the information systems security certificate in the MBA program. The Information Assurance and Security component addresses the immediate and dire needs of area employers to find IS employees skilled in the protection of information through Information Security policy development, disaster recovery and incident response planning. Graduates of this area of interest will be prepared to guide employers through many aspects of information protection, as well as the managerial, legal and ethical aspects of the mission-critical information in which organizations rely on for day-to-day operations.

Additionally, it is very impressive to see that several of the IS&T faculty have made it a priority in their professional development to retool and retrain in this area of

concentration by attending the SANS Institute as well the documented evidence of at least one faculty having a current IS refereed journal publication in this area.

Demographics of Students and the Accessibility of IS&T Courses
Davis County is one of the fastest growing counties in the State of Utah. The Davis Campus is situated fairly close to the freeway, so it is more accessible than the Ogden Campus to students who live or work in Davis County, Salt Lake County, or further south. The School of Business sees opportunities to take a competitive advantage of having the Davis Campus to serve such students. Weber State University is also very much a commuter school. Because most of the students work, and many of them work in Davis and Salt Lake County, offering afternoon and night classes at the Davis Campus is aimed at attracting these working students and providing them with class times that fit their working schedules. This strategy seems to have been successful in terms of the MBA students, but only the future will tell whether this strategy will be successful for undergraduate students.

The IS&T department moved to the Davis campus Fall Semester of 2003. Before that time, the faculty and staff had offices and their courses at the main Ogden campus. Now the faculty and staff offices are at the Davis campus and nearly all the undergraduate courses are at the Davis campus. All the graduate courses which are used to support the MBA program are also the Davis Campus. The MBA program has its courses at the Davis campus. Having IS&T graduate classes and the IS&T faculty and staff at the Davis campus is an opportunity and strength for the IS&T program in relation to providing the latest in technology and access to faculty for MBA students who take the graduate IS&T courses in the MBA program.

However, the same is not necessarily true for undergraduate IS&T majors. IS&T majors must take nearly all their general education courses and their general business courses at the Ogden campus while taking nearly all the IS&T courses at the Davis campus. One student the review committee talked to said that going back and forth was very inconvenient to say the least. Also, the IS&T courses are mostly taught in the evening and there are not many sections offered for each IS&T course, especially upper division. Fitting IS&T courses into a student's schedule is sometimes difficult for the student, especially if the student works.

One of the challenges the IS&T faculty face at the Davis Campus is the isolation from the rest of the School of Business faculty. The professors who teach in the MBA program have a little more opportunity to cross paths with IS&T faculty than other faculty, but, for the most part, there is little interaction between IS&T faculty and other faculty in the School of Business. Most business faculty are not aware of IS&T faculty and chair turnover until they come to the semiannual School of Business faculty meetings.

Faculty and Chair Turnover
In the last two years, two faculty members have left and those faculty members have been replaced by one permanent full-time faculty member and a full-time faculty member who is on a yearly contract. Also, another full-time faculty member is also on a yearly

contract. In addition, in the last two years, the department chair has been changed twice.
The committee is concerned about the lack of stability that affects teaching, research, and
service that is important for a department to have continuity and strength to best serve its
students and meet its mission and objectives. The department is fairly small anyway, and
given the turnover in faculty and department chairs, the number of classes to prepare for
and number of new preparations for an instructor is a challenge. There have also been
sometimes when due to budget constraints, a permanent full-time position was available,
but was rescinded during a faculty search process or just before the search process was to
begin. We highly recommend and encourage the administration to support full-time
permanent IS&T faculty slots so there can be some foundation of continuity for hiring
and keeping full-time, permanent faculty.

Instructor Involvement with Students
The students' input--received during the briefings--indicated that the instructors are very
interested in the students and take time to help students prepare for a career in
Information Systems Technology. Even with all the faculty turnover and the isolation
from the main campus, the students generally believe that the faculty are doing an
admirable job in providing quality courses for students. The technology at the Davis
campus is excellent and provides the instructors valuable resources for delivery and
content for the courses taught. The students also indicated that they believe the instructors
are knowledgeable about the topics covered and are generally well prepared for class.
Additionally, the employers, who are key stakeholders, indicated that they were very
pleased with the knowledge and abilities of IS&T graduates.

Assessment
As stated in the review report, the IS&T department has engaged in the following related
assessment measures:
1. Prepared a mission statement (stated in their review document)
2. Prepared a list of program objectives
3. Prepared a learning outcomes matrix for courses as of Spring 2001
4. Gathered data using focus groups with IS&T advisory board, alumni, graduating
   seniors and
5. Monitored advisement process, hours completed by graduates at time of
   graduation, job placement data, IT salary information, and ETS examination
   scores.

From these steps, particularly, the learning outcome matrix and the focus group results,
the IS&T department did a curriculum review and changed its program to include a
Systems Development track and an Information Security track for its undergraduate
program. However, no matrix exists that matches learning outcomes, and IS&T
assurance of learning objectives with the newly designed program format. The peer
review team commends the department for making changes to its curriculum and courses
based on its review. However, the learning outcomes have not been updated to the new
curriculum, and it appears that data were not collected in the past, nor is there evidence of
learning goals/objectives and direct measures for programmatic assessment. Other than
the course grading structures, there are no data nor mechanism/measurements to assess

whether students have an opportunity to learn, practice, and apply IT and business principles, practices and skills that have been identified by the IS&T department and its stakeholders as important for students to become successful IT professionals. This mechanism for assessment needs to be developed and implemented. The team would especially encourage the faculty to consider some type of direct measure for evaluating the technology components/courses that are taken by all College of Business students. The peer review team also recommends the IS&T department determine and document how their curriculum compares to national IS curriculum models such as IS 2002.

Scholarly Research and Productivity
Producing intellectual contributions and scholarly works represent a core set of responsibilities of the business faculty. The IS&T faculty are encouraged to collaborate with other faculty and continue to seek venues for publishing their work in a wide variety of intellectual outlets such as journals, research monographs, scholarly books, chapters in IS related textbooks. The faculty is also encouraged to present and participate in scholarly meetings and publish in the proceedings of these scholarly meetings. Both applied business scholarship and pedagogical works appear to be appropriate for this department and the school's mission. Given the School of Business' AACSB accreditation, it is imperative that the faculty maintain a very active research agenda that specifically includes refereed journals in the IS literature. This recommendation is not intended to eliminate faculty publications in specialty areas. However, the peer review team believes department research/scholarship would be greatly improved by targeting IS journals.

Resources and Facilities
The hardware/software infrastructure of the IS&T department is well established for technical instruction. The following represents a brief overview:

Room 225: 28 machines that are 2.4 GigHz machines with a Gig of memory and all DVD dual layer burners. Six servers Intel 2.8 dual core 64 bit with 2 Gig of memory each. All workstations and servers have removable 20 - 40 Gig hard drives. Seven switches with 24 ports each that students can configure. You can isolate machines or combine for subnet for (for example) red vs. blue attack and defend exercises. These are cutting edge machines bought with a Perkins grant. These rooms are used for the 3610, 3620, 4600, 4700, and other technical classes.

The department also has 20 slightly older 2.4 GigHz machines with 512K memory that can be broken apart and put together frequently. The faculty use these systems in the 2410 class. This class uses A+ certification for a textbook. In room 101: 32 machines with 2.4 GigHz machines with a Gig of memory. These are dual boot linux/xp-pro non-removable 40 Gig hard drive. These are used for software development classes (Java, Database). Terminal server and MSDN server sitting in the Davis server room. Each classroom has a Crestron touch-screen and Canon document camera, DVD, CD, VHS, stereo, multimedia capability.

Overall, this is a very impressive arrangement and would be resources that most faculty at comparable, benchmark schools would not have available to them. Kudos to the IS&T faculty on design and development of the facility.