Program Review and Self-Study Report

for the

Arkansas Higher Education Coordinating Board

University of Arkansas at Monticello

School of Computer Information Systems

Fall 2010

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Goals, Objectives, and Activities

1. Describe specific educational goals, objectives, and activities of the program.

   From the University of Arkansas at Monticello (UAM) faculty handbook the Mission Statement states "The University seeks to enhance and share knowledge, to preserve and promote the intellectual content of society, and to educate people for critical thought." This serves as the basis for the goals of the School of Computer Information Systems (CIS) and is crucial for success in the information technology (IT) industry that students are preparing to enter. The goal of the CIS program is to help students develop the intellectual, personal, and professional qualities that will enable them to compete for jobs in the rapidly evolving information technology industry. Graduates of the program will experience many facets of the information technology spectrum, including programming, database development, analysis and design, networking, communication, and web development. The graduates are prepared to enter the workforce as programmers, system administrators, hardware support, network administrators, analysts, and consulting positions.

   Specific education objectives of the CIS program offer students the opportunity to pursue a Bachelor of Science degree with a major in Computer Information Systems. An advanced certificate and a minor in Computer Information Systems are also available. The program facilitates students in developing professional competence and a range of skills which prepares graduates to work in multiple positions such as private industry, healthcare facilities, educational institutions, and public/governmental industry. Students are prepared and encouraged to consider post-graduate education upon graduation.

   Specific activities within the program that help the students grow include the following:

   A. Chi Iota Sigma is an active student organization which fosters group camaraderie and allows students to network within the program. This organization invites CIS alumni speakers from the surrounding region, which inform students about various job opportunities. The organization provides community service projects each semester, which allow students to contribute to their community and to serve others.

   B. Discussions of professionalism and standards of behavior, in communication, dress, and ways of conduct are offered. It is a common assumption that standards of conduct are already full developed by the time a student reaches higher education, but all too often that assumption is incorrect. To make sure students develop the

proper standards of conduction, we stress these with reminders in class, etiquette seminars, requirement of Technical Writing, and positive re-enforcement.

C. CIS majors are required to take a minimum of three programming languages, and may choose two additional languages as electives. Other elective opportunities include CIS 4263 Ethics in Information Technology, CIS 4253 CIS Security, and variable credit practicum. Students are required to take classes in the areas of database development, networking, and analysis and design. Besides just exposing the student to all the differing technologies, we want to teach them how to develop their ability to learn and adapt to new and different technologies and methodologies. This is critical to preparing students to enter the IT industry, due to the constant change that is an industry hallmark.

2. Explain how the program serves the general education program and other disciplinary programs on the campus, if applicable.

The School of Computer Information Systems continually strives to support the mission of the University in the area of general education, in addition to offering the major and minor in Computer Information Systems. This is accomplished by offering a variety of courses as a part of the curriculum for other departments on campus. An example includes the usage of CIS 4263 Ethics in Information Technology, CIS 2203 Programming Logic and Design, CIS 3443 Object-Oriented Programming Languages and CIS 4623 Database Management Systems classes by the School of Forest Resources' Spatial Information Systems and Geographic Information Systems majors. The Universities' Schools of Agriculture, Business, Education, Forest Resources, Nursing, and Social & Behavioral Sciences require Microcomputer Applications course as a supportive requirement for their degree programs. All students are required to complete a 3-hour Math/Science/Technology elective. For those programs that do not require Microcomputer Applications for their majors, student may choose to take CIS 1013 Introduction to Computer-Based Systems or CIS 1193 PC Hardware/Software Maintenance. Students receiving a Bachelors of General Studies may also choose from among three options, each requiring 18 hours of CIS coursework to receive a Bachelors of General Studies with an Emphasis in CIS. These three options include a Productivity Emphasis, Analysis Emphasis, and Programming Emphasis.

Beginning in the fall 2010 semester, the CIS 1013 Introduction to Computer-Based Systems class was re-vamped to make it more beneficial for incoming freshmen to help them deepen their base of technology knowledge with some of the content tailored for the campus as they adjust to college.

3. Document market demand and/or state/industry need for careers stemming from the program.

According to a 2008 report from the United States Department of Labor Bureau of Labor Statistics, there are approximately 15,000-plus jobs in the area of Information Technology in the state of Arkansas, with another 6,000-plus IT jobs in neighboring Memphis. Also according the Bureau of Labor Statistics, from their National Employment Matrix, job prospects in the field of IT are expected to experience solid growth across the United States over the next eight years as follows:

Job Role	Employment 2008	Projected Employment 2018	Projected Increase	Percent Increase
Network/Systems Administration & Database Administrator	961,200	1,247,800	286,600	29.8%
CIS Managerial Roles	293,000	342,500	49,500	16.9%
Software Engineers/Programmers	1,336,300	1,619,300	283,100	21.2%
Total IT jobs	**2,590,500**	**3209,600**	**619,100**	**23.9%**

Across the three categories listed above, this represents forecasted job growth of nearly 24% in the field of IT. IT employment in the United States has seen a slight decline over the past decade with the rise in popularity of out-sourcing of IT jobs, but some companies have begun to move back to US-based employees due to a variety of causes including sensitivity of data requiring more in-depth background checks, some job roles requiring the possibility of face-to-face interaction, and insuring ease of communication with end-user support. The figures above demonstrate that market demand, both locally and nationwide is strong for continued job growth in the IT industry.

4. Document student demand for the program.

Please see the table below in regard to July 2010 and historical numbers on student enrollment in CIS programs.

Computer Information Systems Majors – by classification

	Fall 2000	Fall 2001	Fall 2002	Fall 2003	Fall 2004	Fall 2005	Fall 2006	Fall 2007	Fall 2008	Fall 2009
Freshman	64	51	75	74	52	43	43	28	31	33
Sophomore	38	46	33	36	31	22	19	20	14	20
Junior	27	31	45	31	27	20	21	30	19	16
Senior	36	34	43	43	42	37	20	25	32	26
Pre-Freshman	0	1	1	1	0	0	3	2	1	0
Post Baccalaureate	5	4	2	4	4	2	0	0	1	2
Total	**170**	**167**	**199**	**189**	**156**	**124**	**106**	**105**	**98**	**97**

Advanced Certificate in Computer Information Systems

	Fall 2000	Fall 2001	Fall 2002	Fall 2003	Fall 2004	Fall 2005	Fall 2006	Fall 2007	Fall 2008	Fall 2009
Post Baccalaureate	0	0	0	0	0	1	1	0	0	0

Computer information Systems Minors by classification

	Fall 2000	Fall 2001	Fall 2002	Fall 2003	Fall 2004	Fall 2005	Fall 2006	Fall 2007	Fall 2008	Fall 2009
Freshman	2	1	4	1	0	2	2	1	0	1
Sophomore	5	6	4	6	5	3	3	3	1	3
Junior	5	5	5	3	1	2	3	3	3	1
Senior	3	4	8	9	7	8	5	4	8	7
Total	**15**	**16**	**21**	**19**	**13**	**15**	**13**	**11**	**12**	**12**

Reviewing the recent history of the program, demand for the program peaked in 2002 and 2003 before beginning a slight decline at that time, mostly due to declining numbers in the CIS freshman classes. The CIS faculty have spent time looking into several possible causes of the decline in the number of CIS majors. While there is no definitive answer, we believe the decline to be due to the combination of several factors, outlined below.

The decline coincided with the closing and/or relocation of several large employers in the immediate area such as Burlington Industries, Georgia Pacific, and Akin Industries. The negative effect of losing these large employers was two-fold. First, the loss of large employers necessitates some individuals moving away from the immediate area, hurting the total number of students, and secondly the entities were among the larger employers of information technology in the immediate area that were paying competitive salaries. The loss of job possibilities was a noticeable negative impact on program enrollment. One particular impact was felt, from the closing of Burlington Industries. Burlington began layoffs in 2000 that continued over the next few years, but also began a program where they paid tuition for laid-off workers to go to college and get degrees, while still being able to draw unemployment. This program brought several students into the CIS program, as well as many other programs across the campus. This program helped fund students into the CIS program and the University as a whole, until 2004. In 2004, Burlington Industries closed down and the program came to an end.

One of the factors that sparked rapid growth in CIS as a major was the 1999 enactment of the Arkansas Technical Careers Student Loan Forgiveness Program. This program, enacted in 1999, allowed forgiveness of up to $2,500 a year on student loans for students who graduated and then kept a qualifying position in Information Technology in Arkansas could receive a year's forgiveness of student loans for each year in their job. This financial incentive helped fuel the increase in popularity of the program. The program was phased out and its elimination likely contributed to the decline in numbers.

As a University, UAM has a target recruiting area of ten surrounding counties. Students from these counties make up 85% of the UAM student population. Counties included in this recruiting area are Arkansas, Ashley, Bradley, Dallas, Desha, Drew, Cleveland, Chicot, Cleveland, and Jefferson. In the time period from 2000-2009, per census data, total combined population in this area declined from 222,290 to 205,192, a net loss of 17,908 people and a 13% decrease. This decline in overall population density for our immediate recruiting area also contributed to the overall decline in numbers.

The past ten years has been a period of dynamic change for the School of Computer Information Systems (then the Division of Computer Information Systems). The beginning of the decade the program experienced rapid growth, to a peak figure of 199 CIS majors in 2002. At this time period, there were five fulltime CIS faculty members. To deal with the volume of students, faculty were commonly teaching overloads, courses which were major requirements were only being taught one semester per academic year, CIS elective course offerings were very limited and multiple adjunct faculty were utilized by the School. All faculty members were commonly advising more than fifty students apiece. To better

address some of these challenges, a sixth full time instructor was hired in 2006. The addition to the program helped by spreading the teaching and advising loads, allowing faculty to choose overloads only as necessary, courses which were major requirements began to be offered each semester, and an expansion in CIS elective and seminar courses. This enabled development and offering of the CIS 1193 PC Hardware and Software Maintenance, CIS 4253 CIS Security, CIS 4263 Ethics in Information Technology, and CIS 3453 World Wide Web Programming courses.

Another development impacting the School of Computer Information Systems was the introduction of the Colleges of Technology in Crossett and McGehee into the UAM system. These schools became part of the UAM system on July 1, 2003. They feature programs in the areas of Computer Repair/Networking, Administrative Office Technology, and Health Information Technology. These programs are likely to appeal to students interested in an Information Technology-related career, but wanting a quicker path to a degree or certification.

With UAM's status as an open admissions university, many incoming freshmen (64% of 2008 ADHE statistics) enter college in remediation in the area of mathematics or English or both, and some of the mathematics prerequisites may deter some students from entering CIS as a field. With the strong reliance on logic and reasoning skills in the CIS major, students who do not have sufficient logic and reasoning skills to complete general education mathematics typically struggle to complete the CIS curriculum.

Curriculum

1. Describe how program content parallels current thinking/trends in the field/trade (best practices, advisory committee recommendations, etc).

   Information Technology is in a state of near-constant evolution, and the goal as a School is to update the course offerings to stay in tune with the rapidly changing industry. Several of the companies in this area have very small staffing for IT positions, many only having one "computer person" who must then be able to support all the different technological facets of his/her employer. Accordingly, the goal as a School is to expose students to all of these different facets so they will have a strong technology knowledge base to build upon, while also offering a range of courses that will allow them to develop specialized skills in a particular area of interest.

   In the fall of 1999, the CIS major was removed from the School of Business and placed in its own division so that Association to Advance Collegiate Schools of Business (AACSB) accreditation could be achieved by the School of Business. Since CIS shared core course

offerings with the School of Business, the AACSB accreditation guidelines limited the number of courses that could be taught by the School of Business in any other major. In the 2001-2003 catalog, Business added "Computer Information Systems majors are limited to a maximum of 30 hours of course work in the School of Business." CIS, now operating as a separate entity, had to redesign the course offerings for their major. The faculty examined the course requirements for various graduate schools to determine which business courses should be offered that would allow students to enter graduate programs with minimum deficiencies. Faculty then examined other campus-wide course offerings that they felt strongly aided students. For example, instead of Business Communications, to stress business writing, Technical Writing was selected which emphasized preparing reports and letters in a technical/professional environment. While part of the School of Business, the School Systems was unable to address employer concerns with student communication skills. This reorganization allowed the School of Computer Information Systems to address these employer needs by adding an additional speech course to the requirements. Besides these requirements, faculty make it a point to stress the correct standards of communication, and assignments require students to hone their speaking and presentation skills to make them more comfortable in these areas.

CIS faculty continually review curriculum in an effort to meet the needs of CIS majors, minors, and advanced certificate participants, in addition to the University's general education population.

As a result, over the past 10 years, there have been several changes to the CIS 1013 Introduction to Computer-Based Systems course. In the fall 2008 semester, because most incoming students enter the CIS program with some basic knowledge of computers, so the course was dropped as a CIS major requirement. The School replaced this course with CIS 1193 PC Hardware and Software Maintenance. CIS 1013 Introduction to Computer-Based Systems was later reformulated in fall 2010 to better target the university's freshmen who are limited in basic computer knowledge. The previous format was lecture-based, full of terminology to learn. The new format combines lecture/lab; a laboratory component featuring Windows and Word has been added. The goals are to encourage students to begin using file management when storing coursework and to introduce them to Word so that they can better format papers throughout their college careers.

Some CIS 1013 Introduction to Computer-Based Systems sections are also required to present a topic-related CIS article to the class. This assignment encourages the use of UAM Library resources and offers an opportunity for public speaking. A paper is also assigned to some sections of Introduction to Computer-Based Systems students. The paper assignment requires the student to "purchase" a computer on a set budget. In addition to

strengthening writing and Word skills, students must put computer terminology to use while shopping for a computer. These assignments were added to better emphasize cross-curriculum learning by tying in speech and English.

CIS 1193 PC Hardware and Software Maintenance was created in 2004 to fill in the gaps of student knowledge and company expectations. Companies in southeastern Arkansas often expect a CIS graduate to have some knowledge of hardware/software installation as they cannot afford the cost of creating narrowly specialized positions within their organizations. Few students enter college having opened a system unit, much less installed a new hard drive.

CIS 2203 Programming Logic & Design has also evolved in the last ten years. It began as a course that focused on the QuickBASIC programming language called Programming Microcomputers and then in fall 2006 changed to its current format. Its current objective is to teach students the logic behind programming, often using pseudo code to prepare them for future programming courses.

CIS 2223 Microcomputer Applications/CIS 3103 Advanced Microcomputer Applications continue to be updated with current operating systems and productivity software. When a student purchases a new personal computer, updated software is included; the same applies to businesses. These courses should be using the same software that students use at home, and the software used in the course changes to stay in step with current products.

Semester	Operating System	Word Processing	Spread-sheets	Presentations	Web Browsing
Fall 2000	Windows 98	Word 2000	Excel 2000	None	Netscape
Fall 2001	Windows 2000	Word 2000	Excel 2000	PowerPoint 2000	Various Browsers
Fall 2002	Windows 2000	Word 2002	Excel 2002	PowerPoint 2002	Various Browsers
Fall 2003	Windows XP	Word 2002	Excel 2002	PowerPoint 2002	Various Browsers
Fall 2005	Windows XP	Word 2003	Excel 2003	PowerPoint 2003	Various Browsers
Fall 2007	Windows Vista	Word 2007	Excel 2007	PowerPoint 2007	Various Browsers
Fall 2010	Windows 7	Word 2007	Excel 2007	PowerPoint 2007	Various Browsers

CIS 3423 COBOL and CIS 3553 Advanced COBOL now require students to work in a mainframe environment. Many companies who hire our graduates as programmers use mainframes.

Visual Basic software (used in the CIS 3443 Object-Oriented Programming Languages course) continues to be upgraded to keep our students current with industry.

CIS 3433 Introduction to C# Programming began because students wanted more programming opportunities. C++ was the language used when it began. This has since evolved into C# as the standard taught in this seminar.

CIS 3453 World Wide Web programming began as a seminar course, and then became a permanent course in fall 2003. As interest grew, the department thought it prudent to require this of all CIS majors. Companies in the area again feel that a CIS major should know how to do "everything". While that is not a realistic expectation, requiring WWW does help to make a more well-rounded graduate.

CIS 4503 Business Data Communications evolved into a lecture/lab course in fall 2000. Students needed the hands-on experience working with networking hardware and software. For those who choose to become IT managers, students are introduced to network operating systems. For students who choose other avenues of CIS, they still have an appreciation and understanding of what is happening behind-the-scenes of their network connections. A résumé component was added in spring 2010 to this course because graduates were coming back to faculty asking for assistance in putting together resumes for the IT field. Faculty can now guarantee that graduates have a basic guideline for creating a résumé. Companies continue to speak about the importance of clear, concise, and accurate résumés as this is the first opportunity that a potential employee has to impress.

CIS 3523 Structured Systems Analysis & Design has added an etiquette lunch to its course. The Etiquette Lunch started in fall 2002 in response to prospective employers' comments about the way students were dressing for interviews. Employers indicated that students were arriving in anything from college attire (T-shirt, shorts, and flip-flops) to party attire. The rumpled appearance of both their attire and their persons became a roadblock to employment.

UAM's open-admissions policy brings to campus many students who have a limited exposure to professional dress. What started as a small talk about dressing for success in 2002 has expanded to an hour-long conversation outside of class about being a professional. Topics such as how to shake hands, actions considered sexual harassment, netiquette tips, banquet place settings, and manners in foreign countries are discussed. A variety of newspaper clippings, etiquette quizzes, and helpful handouts are given to the students so they have business etiquette information to peruse at their leisure.

The Etiquette Lunch is part of the CIS 3523 Structured Systems Analysis and Design course; a course required for both majors and minors. The first etiquette item the students encounter is a memo asking them to RSVP to one of the two sessions offered. An RSVP is a new concept to many of the students. This task teaches what an RSVP is, why it is used, and the need to respond by the date requested.

As the students are told, the Etiquette Lunch is not to teach them which fork to use; instead, it is to make them aware of the importance of proper etiquette. If they want to improve anything from their table manners to their business dress, students are advised on various avenues such as taking classes, buying books, or even watching clips on YouTube that can be used to hone a skill.

The following is an excerpt from the memo sent to the students requesting an RSVP:

> *Do you want to be thought of as just another employee or as a professional? Etiquette is about presenting yourself with the kind of polish that shows you can be taken seriously. Etiquette is also about being confident in a variety of situations. The Etiquette Lunch will share with you the importance of good business etiquette and address such topics as business casual dress, place settings, and attending after-hours business events.*

The Etiquette Lunch is a feature that the School of Computer Information Systems does to help our students prepare for professional life. The Etiquette Lunch subject matter taught today is not exactly what was discussed in 2002 and will not be the same as what will be talked about in 2012. The Etiquette Lunch will always be in a state of growth in order to be current with the times.

Program improvements and developments are driven by two primary factors, the faculty and feedback from industry. First, faculty observe the students and their performance, and listen to their feedback in regard to class content, and are always looking for different approaches to maintain student interest. Faculty also gathers information at professional/organizational meetings regarding changing technology and provides this information for discussions regarding course offerings.

Feedback from industry is gathered by graduate and employer surveys. These surveys are included in the yearly assessment reports, and through this process, the School of CIS has made various changes throughout the years in the course offerings to keep students abreast of changes within the industry

2. Provide an outline for each program curriculum, including the sequence of courses.

   Please refer to Appendix A, the School of Computer Information Systems 8 semester plan of study. We use this plan of study as a model when registering students in regard to proper class sequencing.

3. State the degree requirements, including general education requirements, institutional, college or school requirements, and major requirements.

   Bachelor of Science Degree Requirements

   The Bachelor of Science degree in Computer Information Systems requires 124 hours which includes the university's General Education program, the university's Bachelor of Science mathematics and or science requirements, major requirements, and supportive requirements. The number of elective hours will depend on the General Education and the Bachelor of Science mathematics and/or science required courses selected.

   The Minor in Computer Information systems requires eighteen hours of CIS coursework. The Advanced Certificate in CIS program, which is intended only for students who have already completed a degree in another discipline, requires twenty-four hours. The CIS areas of emphasis for General Studies majors also require eighteen hours.

   Please refer to Appendix B for the 2008-2011 School of Computer Information Systems Major Class Check List, School of Computer Information Systems Minor Requirements, School of Computer Information Systems Advanced Certificate in CIS, and requirements for three choices for areas of emphasis in Computer Information Systems for General Studies majors.

4. Indicate the semester/year the major/program courses were last offered. Exclude general education courses.

   Major Requirements (39 hours)

   CIS 2193 - PC Hardware and Software Maintenance – Last offered Fall 2010
   CIS 2203 - Programming Design and Logic – Last offered Fall 2010
   CIS 2223 - Microcomputer Applications – Last offered Fall 2010
   CIS 3103 - Advanced Microcomputer Applications – Last offered Fall 2010
   CIS 3423 - COBOL Programming Language – Last offered Fall 2010
   CIS 3443 - CIS 3443 Object-Oriented Programming Languages – Last offered Fall 2010
   CIS 3453 - World Wide Web Programming – Last offered Fall 2010
   CIS 3523 - Structured System Analysis and Design – Last offered Fall 2010
   CIS 3553 - Advanced COBOL Programming Language – Last offered Fall 2010

CIS 4503 - Business Data Communications – Last offered Fall 2010
CIS 4623 - Database Management Systems – Last offered Fall 2010
CIS 4633 - Application Software Development Project – Last offered Fall 2010
Three credit hours of CIS electives at the 3000-4000 level (choices listed below):
CIS 3233 Business Database Management Systems – Last offered Fall 2009
CIS 3243 Introduction to Java Programming – Last offered Spring 2010
CIS 3433 Introduction to C# Programming - – Last offered Fall 2010
CIS 370V Computer Information Systems Practicum – Last offered Spring 2010
CIS 4253 CIS Security – Last offered Fall 2010
CIS 4263 Ethics in Information Technology – Last offered Spring 2010
CIS 460V Internship in Computer Information Systems – Last offered Fall 2010
CIS 4723 Seminar in Computer Information Systems – Last offered Spring 2009
CIS 479V Independent Study in Computer Information Systems – Last offered Fall 2005

5. Provide syllabi for discipline-specific courses and departmental objectives for each course.

   Please refer to attached Appendix C for Syllabi and Objectives & Minimum Content for all curriculum courses.

6. Outline the process for the introduction of new courses, including all internal curriculum review processes and the findings.

   The CIS faculty continually reviews the curriculum to ensure that it stays current with both industry trends for CIS majors and minors as well as the changing needs of the general student population. The process for all changes to the curriculum begins with CIS faculty. Meetings are held when possible changes are raised as issues and discussed for merit.

   To be considered for inclusion into the CIS curriculum a new course must first be deemed appropriate by the faculty. Often this decision is driven by needs identified within the industrial communities that employ CIS graduates or by changes to model curricula of established accrediting organizations. However, as in all courses offered, faculty strives to continue a tradition by which students not only attain superior technical skills within the course but also receive an academic balance by the additional emphasis on high-order thinking through strong conceptual foundations.

   On occasion, a new course might be taught first in a seminar format to allow the academic unit and the faculty an opportunity to investigate various aspects such as what topics might fit best into the available time frame. After this “dry run” a syllabus can more easily be formalized for the prospective new course.

A new course proposal, accompanied by its syllabus, must be submitted to and be approved by the university's Curriculum and Standards (C&S) committee before being sent to the Assembly. However, the university's Academic Council requests to see proposals first. This procedure ensures that all academic deans are aware of the consequences to their own programs before the new course is reviewed by the Curriculum and Standards Committee. This 10-day review process usually affords sufficient time for minor issues to be resolved.

It is the responsibility of faculty representatives to take proposals from their units to Curriculum and Standards meetings. Proposals are normally reviewed in two readings. Everything from substantive to editorial merits are considered so that the task of the catalog editor will be lessened, and so that the proposal has no ambiguities. After being approved by Curriculum and Standards the proposals go before the university's Assembly. They come to the floor as "seconded" motion and if approved by the Assembly, proposals are then signed by the Curriculum and Standards chairperson and Assembly president before being sent to the Chancellor's office for the last signature. Upon approval by the Board of Trustees (and ultimately the Arkansas Department of Higher Education), proposals go back to the Registrar's Office and Academic Affairs for final implementation and inclusion in the official catalog.

Please find attached as Appendix D Curriculum and Standards change request forms that have been submitted by the School of Computer Information Systems.

7. List courses in the proposed degree program currently offered by distance delivery.

   Courses currently offered by distance delivery at this time are:

   CIS 2223 Microcomputer Applications
   CIS 3103 Advanced Microcomputer Applications
   CIS 1013 Introduction to Computer-Based Systems was offered online until being restructured in fall 2010

8. Describe the instructor-to-student and student-to-student interaction for distance courses (prerequisite courses, lab requirements, examination procedures-online/proctored, and instructor to student assignments).

   Instructor-to-student and student-to-student interaction varies among different instructors considering their differing teaching styles. All instructors are available to their students via email, phone call, and designated office hours, so students have several means of contact with their instructors. Instructors also try to leave constructive comments on assignments to help clarify their expectations for follow-up assignments. Student-to-student interaction occurs primarily in the form of discussion boards, in which student participation and opinion

sharing can drive the learning process. Civil, rational discussion of the topics covered in class can enhance student understanding, students can discuss/seek to clarify the parameters of assignments, and share knowledge in a community setting.

For the CIS 2223 Microcomputer Applications course, there is no prerequisite to taking this class online. All students taking online courses are required to have access to a reliable Internet connection (high speed Internet strongly preferred) and software that is currently used in the course, (ie.) Windows 7 and MS Office 2007 currently. The majority of students complete their coursework from home, but some use the UAM computer labs to complete their coursework.

There is no in-person orientation for this online course. As University policy, at the beginning of the course, students are provided the syllabus and the instructor's contact information so that they can ensure that each student understands the requirements of the course and can access the course. Students are also given initial assignments such as ten questions related to them and learning to find information in Blackboard. These types of assignments require the students to familiarize themselves with the software, the calendar, and the syllabus. There is also an FAQ available for students to help them with common problems associated with Blackboard. As part of the University's summer 2010 transition to Blackboard, the Office of Academic Computing offered daily Blackboard training sessions for students before the beginning of the semester to help orient them to the new software. Instructors respond to student assignments with comments, answer questions via emails, and posting of grades within the software.

None of the exams or quizzes in CIS 2223 Microcomputer Applications is proctored. Students are given a time-limited and randomized exam to minimize outside research or student-assisting-student answers to questions. Exams are open for a 24-hour period only, to help focus student learning on one unit at a time. Students are allowed to work ahead within a unit, with the exception of taking the exam.

The online version of CIS 3103 Advanced Microcomputer Applications does things a bit differently. Students are required to attend a beginning-of-the-semester orientation on campus where the basics of Blackboard, homework requirements, and testing dates are presented in person. Exams must be taken on the Monticello campus and are administered by the instructor or other CIS representative. Exams are scheduled for each individual student and may take place after 5pm or on Saturday to accommodate each student's schedule. This requirement necessitates face-to-face interaction with the instructor, and at times with other students. All other forms of interaction via email, phone, and within Blackboard are the same across all courses.

Program Faculty (fulltime/adjunct/part-time)

1. Provide curriculum vitae or program faculty information form for all fulltime program faculty. The vita or form should include the following: all degrees and institutions granting the degrees; field or specialty of degrees; number of years employed as program faculty at the institution; current academic rank, if applicable; professional certifications/licenses; evidence of quality and quantity of creative and scholarly/research activity; evidence of quality and quantity of service activities; evidence of professional activities and non-teaching work experiences related to courses taught; list of course numbers/course titles of credit courses taught over the past two academic years; and other evidence of quality teaching.

   Please see Appendix E for attached vitae of all School of Computer Information Systems faculty.

2. Indicate the academic credentials required for adjunct/part-time faculty teaching major/program courses.

   An appropriate degree or professional experience is an essential qualification for appointment as an adjunct/part-time faculty position. Other important qualifications include experience in teaching, research, or other creative activity, and educational service either at other colleges and universities and/or in non-academic settings.

3. Describe the orientation and evaluation processes for faculty, including adjunct and part-time faculty.

   For all new fulltime and visiting faculty, there is an official orientation program which contains information and documentation on academic advising, academic regulations, privacy information, and teaching expectations during the annual faculty development week that occurs the week prior to the beginning of the fall semester. As a follow up, there is a workshop on academic advising that provides more details, strategies, and information on helping students with advising concerns.

   All faculty, including adjunct faculty are evaluated annually. This review serves as the primary basis for all recommendations in the areas of salary, tenure, reappointment, or non-reappointment. Faculty is required to complete and submit a self-evaluation of their performance for the past year. They are also evaluated by a fellow faculty member, their students, and observed in a classroom setting by a peer.

Once this process is complete, the academic unit head reviews all of the combined evaluations to assess faculty performance. The unit head then uses the totality of the evaluations by the faculty peer, students, self-evaluation, and observation data to complete a review of their performance. The unit head then schedules a meeting with the faculty member to discuss their accomplishments and make suggestions for possible improvements. From the UAM faculty handbook, "The purpose of the evaluation is to improve teaching effectiveness and other aspects of job performance and to support decisions concerned with promotion, tenure, and merit pay."

After this review if both the faculty member and unit head are satisfied with the evaluation, the evaluation and all supporting pieces of the evaluation process are sent to the Chief Academic Officer (Provost) for his review and comments. After this is completed, all evaluation materials are stored for historical purposes.

For reference purposes, please refer to Appendix F containing Faculty Self-Evaluation form (Figure A), student Evaluation form (Figure B), Classroom Observation form (Figure C), and Peer/Unit Head review form (Figure D).

4. Provide average number of courses and number of credit hours taught for fulltime program faculty for current academic year.

   Institutional policy in regard to work load is stated in the UAM faculty handbook as follows:

   "The basic element of faculty work load is a work unit, which is equivalent to one class hour (50 minutes) per week for a semester or which is equivalent to three and one-third non-classroom laboratory hours of work per week for a semester. Included for each of these class hours is time for class preparation, grading, office hours, and other work with students outside class. The course load for fulltime faculty holding the rank of instructor is 15 semester credit hours. The course load for fulltime faculty holding the rank of Assistant Professor or above is 12 semester credit hours. Summer employment of faculty is not guaranteed. Course offerings in summer school are based on student need and on the prospect of sufficient enrollment. Therefore, summer employment of faculty is based entirely on student demand for specific courses. Each academic unit must determine its program needs in selecting Summer School courses."

   The School of Computer Information Systems currently has three fulltime Associate Professors and three fulltime Instructors. For the current academic year, including summer classes, the average number of courses taught for fulltime faculty is 10.33. The number of credit hours taught this academic year by fulltime faculty is 186 hours (62 total classes).

Program Resources

1. Describe the institutional support available for faculty development in teaching, research, and service.

   The University offers a variety of support in these areas. In the area of teaching, faculty are encouraged to seek areas of special interest and, when possible, teach in those specific areas. Through the use of seminar classes, when faculty see a need/trend that should be added to the CIS curriculum, they are allowed to develop these classes. From the current curriculum, the CIS 4253 CIS Security, CIS 4263 Ethics for Information Technology, and CIS 3453 World Wide Web Programming classes began in this fashion. Faculty are also supported with institutional flexibility and input on the development of online or hybrid class delivery. Faculty are also encouraged to explore the possibilities of using different methods of class delivery, and received a special one-time payment upon completion of the development of a new online course.

   In the area of research, a part of the role of faculty is research on topics of interest. From the faculty handbook:

   "Fulltime faculty members are expected, as part of their University service, to advise students, serve on committees, and perform academically-related public service. Duties for fulltime faculty also include individual research, scholarly or creative endeavors, and professional travel and development, as well as the usual instructional, research, service, and administrative duties for which work units can be assigned."

   The institution may support faculty research by granting time allotments for research in place of instructing if requested. Faculty are also encouraged to serve as textbook/program editors, which exposes them to new technology and materials, and can further their research.

   CIS faculty is continually researching new trends, new software products, and new methodologies regarding the direction of the Information Technology industry. Faculty also gathers information in this area at professional meetings. Other methods for assessing outreach and entrepreneurial outcomes are the CIS employer survey, consulting roles faculty take with businesses, and our internship program. Specific examples in these areas include questions regarding importance of analytical, business, and interpersonal communication skills on the employer survey, feedback from faculty in regard to consulting opportunities, and feedback on interns from employers in the areas of intern knowledge,

skills, and communication skills. All of these factors weigh into decisions when assessing the future direction of the program.

Service is a third important component of faculty responsibilities. Faculty is encouraged to serve on committees, and the CIS faculty is very active in this regard, with every fulltime faculty member and the unit head all currently serving on committees. Committee service allows faculty members to use their experience and particular skills to serve the university and also can provide a growth opportunity for faculty. Please find below a table of current faculty service to the University.

Faculty	Committee Service	Years Served
Terri Cossey	Faculty Equity and Grievance Committee	2000-2002
	Council on Assessment of Student Academic Achievement	2000-2010
	Committee on Committees	2000-2010
	Library Committee	2002-2004
	North Central Accreditation sub-committee on Mission Statement	2003-2004
	Ad-Hoc Committee on Evaluations	2005-2006
Karen Elise Donham	Academic Appeals Committee – Alternate	2007-2010
Brian Hairston	UAM Academic Council	2009-2010
	Chancellor's Committee on Cost Containment	2010
Lynn Harris	UAM Search Committee – Chair of Computer Information Systems	2009
	UAM Search Committee – Vice Chancellor for Advancement	2009
	Educational Technology Committee	2007-2008
	Program Review Committee	2006-2010
	Academic Appeals Committee	1998-2000, 2006-2010
Jean Hendrix	Curriculum and Standards Committee	2000-2011
	Secretary (substitute)	
	Vice-Chair	2005
	Chair	2008-2011
	Assembly Officer	2007-2008
	Parliamentarian	
	(thus participating with Strategic Planning Committee)	2006-2007
Angela Marsh	General Education Committee	2001-2005, 2007, 2009-2010,
	Recorder	
	Faculty Excellent Awards Committee	
	Chair	2001-2002, 2004
	Institutional Review Board	2009-2010

	Library Committee	2007-2010
	Secretary	2001, 2004-2010
	Promotion and Tenure Committees	2006-2010
	Chair	2004, 2006, 2008, 2010
	Program Review Committee	2006, 2008
	Chair	2001-2006
	Subcommittee Chair	2004-2005
	Alpha Chi	2003-2004
	Assistant Sponsor	2005-2006
	Assembly Nominating Committee	2004
	Financial Aid Appeals Committee	2001-2003
	Career Fair Committee	2001
Lori Selby	UAM Homecoming Committee	2010
	American Democracy Project Committee	2003-2010
	Faculty Equity and Grievance Committee	2005-2010
	Chairman	2009-2010
	Catastrophic Leave Committee	2009-2010
	University Computer Committee	2001-2010
	Director of Student Internships	2001-2010
	UAM Search Committee – Chair of Computer Information Systems	2009
	UAM Promotion and Tenure Committee	2005-2007,2009
	Chairman	2006,2007
	Represent UAM at the Education Renewal Zone meetings	2008-2009
	Advisory Board Member for School of Education	2006-2008
	Academic Technology Use Committee	2001-2007
	BA/BS Identity Requirements Committee	2002-2007
	Honors Council Rep. for Comp. Info. Sys.	2001-2007
	Special Task Committee on Catastrophic Leave Pool for Faculty	20006
	Strategic Planning Steering Council	2001-2006
	University Recruiting Efforts Committee	2005
	University Mission Statement and Core Values Committee	2001-2004
	UAM Weevil Wildcard Day Committee	2004
	UAM Junior Rising CAAP test	2002-2004
	UAM Freshman Orientation Summer Pre-Registration	2003-2004
	UAM Executive Council Recruitment Phone-a-Thon	2002-2003
	Arkansas Academic Advising Network (ARKAAN) – research project for University	2002-2003

	of Arkansas at Fayetteville Assessed the equivalencies for Texarkana College for UAM courses	2002

School of Computer Information Systems faculty is also very active in service to the community, providing technical expertise to local businesses, school districts, and service organizations. This type of service builds goodwill in the community for the University, and acts as a benefit in recruiting the students of the future. The University is very supportive of faculty taking advantage of service opportunities by promoting an atmosphere of tolerance for these time commitments.

Another important area of institutional support for faculty, that somewhat bridges the areas of research and service is the area of outside employment. From the faculty handbook:

"While emphasizing the fact that fulltime faculty and staff members of the University are obligated to devote their working time and efforts primarily to University duties, the University recognizes that a limited amount of outside work for private compensation may be advantageous to all concerned. Such persons are therefore encouraged to engage in outside employment which will affirmatively contribute to their professional advancement or correlate usefully with their University work. (BOARD POLICY 440.7)"

Faculty is allowed to accept projects/employment where they can practice their skills and develop new ones. In recent years, the School of Computer Information Systems faculty have learned new web page design skills to help local businesses, researched technology issues for community committee service, and honed their existing technical skills working with local employers on their own time. This is a win-win situation, as it improves university standing in the community and allows faculty to hone their own talents.

2. Describe the professional development of fulltime program faculty over the past two years including the institutional financial support provided to faculty for the activities.

Both the School of Computer Information Systems and the University as a whole strongly support professional development of faculty. As noted earlier, the week before the beginning of the fall semester is devoted to faculty development.

The rapid change that is a hallmark of the field of CIS means that instruction must evolve rapidly. Professional development is one of the biggest components of that evolution. Annually, the institution provides a budget of approximately $1,800.00 (average for the past three years) for faculty development. Rather than providing a small allotment for each

professor annually, the School of Computer Information Systems chooses to utilize a three-year rotation, where each year, two faculty members share a year's funding allotment for the conference/training of their choosing. In addition to this institutional funding, the School of Computer Information Systems also encourages faculty to attend other more local meetings/conferences as able. Faculty are allowed time off from classes to attend these meetings, and partial financial assistance is provided as the budget allows.

A healthy culture of learning must start with faculty development, so the benefits can be passed onto students. Below is a listing of faculty professional development for the past two years:

Faculty Professional Development

Faculty	Dates	Event Attended
Cossey	October 1-5, 2008	International Association of Computer Information Systems
Hendrix	October 5-7, 2008	AR Conf. of Am. Assoc. of Univ. Prof. 1st Annual Conf. (AAUP)
Donham	February 23-26, 2009	EDUCAUSE
Harris	February 23-26, 2009	EDUCAUSE
Cossey	March 5-6, 2009	Arkansas Blackboard Users Group Conference (ARBUG)
Hendrix	March 5-6, 2009	Arkansas Blackboard Users Group Conference (ARBUG)
Hendrix	May 1-2, 2009	AAUP Executive Meeting
Hendrix	December 4-5, 2009	AAUP Annual Conference
Marsh	March 3-6, 2010	Academic & Business Research Institute Conference
Selby	March 3-6, 2010	Academic & Business Research Institute Conference
Cossey	March 11, 2010	ARBUG Conference (Overview of Blackboard Learn Release)
Harris	March 11, 2010	ARBUG Conference (Overview of Blackboard Learn Release)
Hendrix	April 7-11, 2010	16th Consortium Computing Sciences in Colleges Central Plains Conference
Hendrix	April 30-May 1, 2010	AAUP – Spring Executive Meeting
Donham	September 22-23, 2010	Arkansas Distance Learning Association Conference (ARDLA)

Harris	September 22-23, 2010	Arkansas Distance Learning Association Conference (ARDLA)
Cossey	October 6-9, 2010	IACIS 2010 Annual Conference
Hendrix	October 22-23, 2010	AAUP – Executive Meeting and Fall Conference

3. Provide the annual library budget for the program or describe how library resources are provided for the program.

   Each academic department, along with the library liaisons, recommends library purchases of materials. The books, e-books, journals, e-journals, and databases support their subject areas as those materials relate to the curriculum. The annual library budget for the CIS program is $5,000. Periodic evaluation of the library collection should be undertaken by checking holdings against standard bibliographies and subject lists. Obsolete materials such as outmoded books, superseded editions, superfluous duplicates, worn out or badly marked copies, and broken files or un-indexed journals should be withdrawn, offered on exchange or discarded. The CIS representative to the UAM Library Committee and the library liaison, along with other CIS faculty and the Dean of the School of Computer Information Systems, are encouraged to conduct a review of the collection.

4. Describe the availability, adequacy, and accessibility of campus resources (research, library, instructional support, instructional technology, etc).

   Until summer of 2010, adequacy of Internet bandwidth was lacking for campus. Large user load overwhelmed existing bandwidth, resulting in slow Internet performance campus-wide. Around this time, UAM was connected to ARE-ON (Arkansas Research and Education Optical Network). The core mission of the ARE-ON coalition is to increase speed and bandwidth for all participating bodies and to use this for improved communication, research, and knowledge and awareness of cyberinfrastructure at each member site. This resulted in an increase from 20 Mbps (megabits per second) to 60 Mbps in bandwidth for the campus. This large increase in bandwidth greatly improves the ease of online research, reference downloads, and access to developmental environments. More than simply tripling connection speed, it created huge performance improvements for all users by opening a larger (more data) path to the Internet. The positive impacts of ARE-ON on faculty (and student) research and support are tremendous and will greatly aid in collaborative projects with other universities.

   In the area of instructional technology, the School of Computer Information Systems works to maintain a commitment to provide students with the latest technology possible. For students to be competitive in the job market, it is critical that they work with technology that is comparable to what is in use by industry employers. In regard to this area, in the past

few years, lab and study area computers have been consistently upgraded. Computer labs are updated with new hardware every four years, with the older, replaced hardware going to serve as lab computers in the CIS 4503 Business Data Communications and eventually CIS 1193 PC Hardware and Software Maintenance laboratories. These commitments to upgrades prevent hardware from becoming too old or slow for students to run current technology.

Year of Software Upgrade	Type of Software Upgrade
Fall 2000	Windows 98, Office 2000
Fall 2001	Windows 2000, Windows 2000 Server
Fall 2002	Office 2002
Fall 2003	Windows XP, Windows 2003 Server
Fall 2004	.NET
Fall 2005	Office 2003
Fall 2006	SQL Server 2000, .NET 2003
Fall 2007	Office 2007, Windows Vista, SQL Server 2005, .NET 2005
Fall 2008	Expression Studio & Adobe Creative Suite Software, Alchemy Mindworks Software
Fall 2010	Windows 7, SQL Server 2008, Visual Studio.NET 2008

All courses taught by the School of Computer Information Systems are taught on the first floor of the Babin Business Center. This features four computer labs and three classrooms. Of the seven rooms in regular use, five of them are “smart rooms” with projectors which can be connected to instructor stations for guidance in working through simulations, problems, and concepts.

The UAM Library features a large volume of content for faculty research and development, and can also be used in instructional technology. Library resources in the area of Computer Information Systems are extensive and include 155 online periodical titles, six printed periodicals, 51 eBooks, 670 CIS titles in print, and five Library of Congress Print Collections in areas such as Office Management, Computer Software/Science, Telecommunications, Word processing, and Information Resources.

The library also features access to specialized databases in the areas of research trends, technological innovations, and the management and maintaining of IT resources. General academic databases available include

- Academic OneFile
- Academic Search Complete
- ArticleFirst
- Expanded Academic ASAP
- FirstSearch Databases
- FirstSearch Plus Databases
- General OneFile
- General Reference Center Gold
- MasterFILE Premeir
- Popular Magazines
- ProQuest Research Library

5. Provide a list of program equipment purchases for the past three years.

Date	Item Description
July 2007	D-Link Systems 8 Port Switch, Dell OptiPlex 740 Desktop PC's (32) BBC 122 lab, Dell Color Laser Jet Printers
August 2007	Dell Graphics Cards
September 2007	Adobe Acrobat software
March 2008	3 Video Cards
April 2008	Dell 1201MP Projector
May 2008	Dell Sys Board for GX2, Projector Wiring for Smart Room, Renewal of MSDN Academic Alliance, Dell Latitude D830 Laptop
June 2008	Dell Optiplex 740 Desktop (28) BBC 102 lab, Dell 1201 MP Projector
July 2008	HP LJP4015N Printer BBC 102 Lab (2), Expression Studio & Adobe Creative Suite Software, Alchemy Mindworks Software, Dell Latitude laptop computer, Projector Wiring for Smart Room, Video Splitter/Surge Protection, Projector Wiring for SmartRoom, Dell OptiPlex 755 for Cart Mount PC for mobile usage, Dell 1209S Projector, Switch Wiring Projector Room 121
August 2008	Memory Upgrades purchased, 2 Scanners
September 2008	Memory Upgrades purchased
April 2009	Nec-Remote Projector, Store Jet 25C, Dell 1320C printer for office

May 2009	Dell Latitude laptop computer
July 2009	Dell Optiplex 960 MT – CIS Office PC, TigerDirect Autosave Software
August 2009	Dell Latitude E6500 – Dean Laptop
May 2010	1 GB Memory Upgrade (16), Dell Latitude E6510, Dell CIS Server (New SQL Server Upgrade), Digital Camera/Hardware cables for PC Lab
June 2010	Overhead Projector for BBC 102 Lab
August 2010	CISCO Wireless Router

Instruction via Distance Technology

1. Summarize institutional policies on the establishment, organization, funding, and management of distance courses/degrees.

   The UAM campus governance and academic approval processes are followed for any new course added to the curriculum. Any new degree program, regardless of the method of delivery (distance technology or not) must be reviewed by the faculty, approved by the academic unit dean, the Academic Council, Assembly, Chancellor, the University of Arkansas Board of Trustees, and the Arkansas Department of Higher Education Coordinating Board prior to implementation.

   For an existing course to be offered via distance delivery, a Course Shell Authorization form must be completed and signed by the faculty member and approved by the academic unit dean and the Provost. Each faculty member who teaches an online course must participate in Blackboard, the campus learning management system, training offered by the UAM Office of Academic Computing prior to each fall semester, or as the need arises. Technical assistance is provided by the Office of Academic Computing as needed/required throughout the semester and/or term.

   The UAM Office of Academic Computing is responsible for the management and maintenance of the learning management system server and must communicate with the Office of Academic Affairs regarding available space/seats and other administrative concerns. Additionally, the Office of Academic Computing is responsible for providing technical assistance to the faculty who teach online courses.

2. Summarize the policies and procedures to keep the technology infrastructure current.

University of Arkansas at Monticello faculty and students have access to infrastructure and technology that includes intranet, Blackboard, Compressed Interactive Video, broadband Internet, and access to the online catalog, electronic books, and journals available in the Fred J. Taylor Library and Technology Center, as well as web-based mediums. Regular funding is part of an ongoing process that includes technology upgrades, software licensing, and technical support.

UAM is also in the fourth year of an eight-year plan to provide a technology infrastructure that will increase the University's academic competitiveness. This plan includes Level One technology certification for five buildings; remaining buildings on all three campuses will be upgraded to Level One by 2013.

In the summer of 2010, UAM, a founding member of the Arkansas Research and Education Optical Network, ARE-ON, connected to the ARE-ON Network allowing access to two high-speed national networks, the Internet2 and National Lambda Rail. Completion of this project allowed UAM to collaborate with all universities and colleges that share the network as well as accessing the Internet at a much faster rate.

UAM has also purchased a financial and student information software system, PeopleSoft, updating the institution's 25-year old software system, which will make secure access to campus educational and planning resources available to students via the Internet.

UAM began offering distance education courses in 1999 with WebCT, and utilized various versions of WebCT until summer 2010, when UAM changed over to Blackboard as its distance learning course management product of choice.

3. Summarize the procedures that assure the security of personal information.

The UAM Information Technology Department sets forth guidelines for the protection of personal information following the information security policies regulated by the State of Arkansas security recommendations. These guidelines state that UAM can only collect personal information through a secure link and with prior approval from that individual. Personal information cannot be stored on the course management system by the students and/or faculty. The Office of Academic Computing regularly scans web sites for the presence of personal information. The removal of any personal information found on the course management system is immediate. The Learning Management system (Blackboard in this case) is subject to the same security measures as all other Information Systems on the UAM campus and meets the State of Arkansas security guidelines for protecting personal information.

4. Describe the support services that will be provided to students enrolled in distance technology courses/programs by the institution and/or other entities:
    - Advising
    - Course Registration
    - Financial Aid
    - Course Withdrawal
    - Email Account
    - Access to library Resources
    - Help Desk

    Online students receive the same advising support as students taking courses on-campus. Advisors are available via published contact phone numbers and email and are always ready to help students with preparing for registration.

    In regard to course registration, students who are registering for only online courses are directed to contact the UAM Office of Academic Affairs for support and assistance.

    For financial aid for distance education students, students may complete the Free Application for Federal Student Aid (FAFSA) online and can view their financial status via WeevilNet (UAM enterprise computer portal). UAM does not currently allow students to accept aid via WeevilNet; however, that is planned for the near future. Requested verification documents, loan requests, and award acceptance letters can be submitted via mail, email or fax rather than through a personal visit.

    In regard to course withdrawal, students are directed to contact the institution's director of Academic Advising for support and assistance.

    Student email accounts are governed by the University Information Technology department. The UAM webpage contains links to connect to email, tutorials on using the email system, instructions for initial login, and support phone numbers to contact in the event students are unable to login to their email. Information Technology is open 8am-4:30pm Monday-Friday for student email account problems.

    Online students may access library resources in the same fashion as other students. The Library website is linked off of the main UAM homepage, and provides distance education students access to Subject Guides, Library Guides, the Library catalog, an extensive list of databases, and a tool for searching magazines, newspapers, and journals for information. The Library webpage also provides contact information should students need specific services that are not linked to the main page.

The Office of Academic Computing features a Support Center, also linked off the main UAM Webpage (Blackboard link). This link allows students to access tutorials on "How to Use Blackboard" and "Problems with Blackboard" for students to reference for quick resolutions. The support page also features contact phone numbers for the Support Center, a form to complete to request assistance via email, and a "Live Chat" option where you can be directly connected to an individual in the support center for live assistance. The Office of Academic Computing also periodically offers workshops on Blackboard usage.

5. Describe technology support services that will be provided to students enrolled in distance technology courses/programs by the institution and/or other entities.

   Support services are provided to students enrolled in distance technology courses primarily by the Office of Academic Computing. Faculty are also very helpful if it is an issue they are familiar with to help share resolutions. The Office of Academic Computing supports distance technology courses with training workshops on how to use the course management software utilized for distance courses (Blackboard at this time), online tutorials, email forms for support, and by providing contact phone numbers for the Support Center, and a web option for Live Chat with support personnel. The email form, the chat option, and direct phone calls put users in contact with support personnel who gather information about the users' computer, Internet connection, and the problem. Using this information, support personnel will attempt to diagnose the issue and provide a timely resolution to the problem.

6. Describe the orientation for students enrolled in distance technology courses/programs.

   Institutional policy in regard to orientation for distance technology courses is as follows (from UAM Faculty Distance Education Handbook)

   "Conduct an orientation (online) in each course at the beginning of each term to ensure each student understands the requirements of the course and can access the course. Advise students of the time and energy demands of the course as well as establishing clear limits on what the course is and is not."

   Each faculty member interprets this orientation process in a slightly different manner, but all complete the requirements to ensure students understand how to use the software, view the syllabus, utilize the calendar and discussion boards, and other software features. For the Advanced Microcomputer Applications course, there is an on-campus orientation session where the instructor covers the basics of Blackboard, homework requirements, and testing dates are presented in person. Each style of orientation session presents the instructors contact information, office hours, and expectations for student performance in the course.

7. Summarize the institutional policy for faculty course load and number of credit hours taught, compensation, and ownership of intellectual property.

   In regard to faculty course load, again referring to the UAM Faculty Handbook,

   "The course load for fulltime faculty holding the rank of instructor is 15 semester credit hours. The course load for fulltime faculty holding the rank of Assistant Professor or above is 12 semester credit hours."

   Distance education courses are treated as part of faculty's standard workload. Thus, distance technology courses are viewed the same as classroom courses in the area of workload, credit hours taught, and compensation. Faculty is given a special one-time incentive payment for development of each new online course that they teach.

   In regard to ownership of intellectual property in the area of previously copyrighted materials, the UAM Distance Education faculty handbook sets forth the following guidelines for the use that all faculty must abide by:

   "Under Section 107 of the copyright law (www.lcweb.loc.gov/copyright) passed in 1976, educators are given special exemptions from the law under the Fair Use Doctrine (http://fairuse.stanford.edu). Educators may use copyrighted works without first obtaining permission of the copyright holder, within limits. There are four criteria for determining whether copyrighted materials have been used legally under this doctrine:

   (1) Purpose and character of the use;
   (2) Nature of the materials used;
   (3) Amount and importance of the part used; and
   (4) Effect on the market of the use.
   This site (www.cetus.org/fairindex.html) shows illustrations of the amounts of copyrighted work that may be used under the Fair use Doctrine.

Copyright and Online Instruction

The Technology, Education and Copyright Harmonization Act (TEACH Act) passed in 2002 expands the Fair Use Doctrine to cover distance education. Generally, exemptions given for face-to-face instruction will apply to online instruction. Please visit the American Library Association website for more information www.ala.org/washoff/teach.html.

Copyright Permission

The Fair Use Doctrine currently enables educators to use copyrighted materials without first seeking permission. An educator can also use any materials where copyright permission has been obtained. The following sites offer more information.

- The Copyright Clearance Center (www.copyright.com) will obtain permission for educators; a fee is attached to this service.
- The Copyright Management Center at Indiana University/Purdue University site has information on how to seek copyright permissions. (www.iupui.edu/~copyinfo/home.html)
- The US Copyright Office (www.lcweb.loc.gov/copyright) allows one to search a database for copyright ownership."

In regard to course ownership of intellectual property developed by University faculty, please refer to attached Appendix G – University of Arkansas Board of Trustees Policy 210.2 regarding course ownership. In summary, this policy states that in most instances, faculty will own the copyright to material they have created, and retain the right to update, edit, or revise their work. Faculty also will receive all revenues of commercialization of content they create of their own initiative. For materials developed in regard to faculty contract employment pursuits, the University will retain the right for all revenues, but may decide to share such revenues with the developer at the discretion of the University.

Majors/Declared Students

1. State the number of undergraduate/graduate majors/declared students in each degree program under review for the past three years.

Computer Information Systems Majors – by classification

	Fall 2007	Fall 2008	Fall 2009
Freshmen	28	31	33
Sophomores	20	14	20
Juniors	30	19	16
Seniors	25	32	26
Pre-Freshmen	2	1	0
Post Bachelor	0	1	2
Total	105	98	97

Computer Information Systems Minors – by classification

	Fall 2007	Fall 2008	Fall 2009
Freshmen	1	0	1
Sophomores	3	1	3
Juniors	3	3	1
Seniors	4	8	7
Total	**11**	**12**	**12**

2. Describe strategies to recruit, retain, and graduate students.

   In the area of recruiting, the School of Computer Information Systems has developed several strategies to begin implementing for the upcoming year. These include more development of relationships with area high school and community college computing instructors, with activities such as serving on school district technology committees, speaking to computer classes, and providing student volunteers to help school districts or work as interns in the districts if possible. These activities will provide faculty a chance to market our University and our major in particular, pointing out the still growing job market, excellent salary base, and the possibility of flexible work arrangements as perks to attract students.

   The School also recruits potential students when they are on campus for events such as Scholar's Day, Parent/Family Appreciation Day, and campus visits. Potential students also have the option of visiting the School of Computer Information Systems homepage from the main UAM homepage and to complete a form to request more information about CIS as a major at UAM. Prospective students receive a contact letter and a brochure to describe the program and an information sheet with a listing of the degree requirements for the Bachelors of Science degree in CIS. Undeclared or General Studies majors who make the Dean's list are contacted and invited to take a look at the CIS program to see if they would be interested in CIS as a major or minor. Current UAM students get a chance to learn about CIS as a major with events such as the Majors fair and "So You Want to be a CIS major" workshops that are offered.

   In the area of retention, faculty and staff within the School are urged to work at developing a one-on-one relationship with students. This includes an open-door policy with all faculty and staff, and encouraging students to feel welcome to stop by to discuss CIS as a career, job opportunities, or particular areas of interest. The CIS faculty is outstanding at working with students outside of class hours in a lab setting to help clarify any concepts covered in class with which students may struggle. Students are also encouraged to email questions to

faculty outside of normal class hours, and CIS faculty are very good about replying outside of work areas to try to help students who may be having problems. The CIS Faculty is also very consistent in helping provide students information on area employers, job opportunities, resume development, and interview preparation. Helping students feel confident and prepared can help improve their success in finding that first job.

The School of CIS also participates in university-level events such as Weevil Welcome days, Scholar's Day, and Parent/Family Appreciation Day. These types of events give students, prospective students, and their families a change to interact with faculty outside the classroom setting. In 2010, the School of CIS started an annual CIS day, where alumni came to campus to speak to students about their experiences as a student at UAM, their preparation for the workforce, and their own careers. This type of experience is vital to encourage and motivate students to succeed.

The School of Computer Information Systems works to maintain as up to date as possible in regard to technology, both hardware and software. Providing the most current technology for students will further competitiveness in the job market. Students can check out and install copies of Microsoft software products through the Microsoft Developer Network (MSDN) Academic Alliance program so they may work on assignments outside of the labs. This past summer, the School of Computer Information Systems upgraded Visual Studio, SQL Server, and changed Operating Systems to Windows 7 as part of this effort to provide students with current technology.

The School of Computer Information Systems has an active student organization, Chi Iota Sigma. CIS faculty serve as sponsors for the organization and meetings are held monthly during the fall and spring terms. This gives students the opportunity to learn about industry trends and the job and recruiting process from other UAM alumni. This also is very encouraging for the students – to see graduates who have been in their positions and are now working in industry. The student organization also promotes community service through canned food drives each semester. Retention research suggests this sort of activity remains an effective approach to addressing attrition issues.

In an effort to maintain strong lines of communication with majors, the School sends out letters to CIS majors – welcoming new CIS majors, congratulating our students on making the Dean's & Chancellor's lists, celebrating birthdays, or sending condolences on the loss of family members. This is part of the School's effort to foster a sense of community with students.

Since 2002, the School has hosted several special events to help build the relationships with CIS majors and minors. These events included a CIS Christmas Buffet of Sweets in

December, a CIS Awards Banquet each April to recognize outstanding achievement through scholarships, and a CIS Graduate Dinner each May. These occasions give the students chances to interact with faculty, their peers, and alumni and provide valuable experience relating in regard to their field of study. In honor of UAM's centennial celebration, the School of Computer Information Systems added two events for the 2009-2010 school year. In October 2009, the School invited CIS students and alumni to tailgate for homecoming. It was an opportunity to visit with students outside the classroom and to network with graduates and their families. The School of Computer Information Systems also hosted a CIS Alumni Day in March 2010; several CIS graduates were invited to speak about their classroom and industry experiences. It was successful and will be an ongoing event. Please see Appendix H for 2010 Alumni Day brochure.

The School of Computer Information Systems also annually participates in the Arkansas Collegiate Programming Contest. The School has had outstanding success for several years in the program and continued that trend this year with 1st and 2nd place finishes in their division of the contest. This type of recognition is valuable for our program and motivates students to succeed. The continued success in the state programming competition necessitated the purchase of a trophy case several years back for display of trophies won by UAM teams over the years. This can help only in the effort to motivate students to succeed.

Most of the strategies in the area of retention also directly correlate with efforts to graduate students. The relationship of advisor-to-student helps faculty see where a student might possibly be struggling, and recommend appropriate support services such as tutoring if applicable. Developing a strong relationship between students and faculty encourages students, and helps faculty understa8nd them as individuals. This understanding helps faculty hone their material presentation to most effectively reach the majority of students. Other activities like the CIS student organization, build a sense of community, and the opportunity to interact with alumni speakers helps encourage and motivate students and see that their goals are achievable with effort.

3. Provide the number of program graduates over the past three years.

Computer Information Systems Graduates

2007	2008	2009
15	20	18

Program Assessment

1. Describe the program assessment process and provide outcomes data (standardized entrance/placement test results, exit test results, etc.).

   The School of Computer Information Systems uses four primary means for assessment of students as they work through the program and an annual assessment of the program itself.

   First, the capstone course, CIS 4633 Application Software Development Project, is a primary means of student assessment. More detail on this course will be presented in the response to the following question under this same heading, but in summary, this course requires students to utilize a combination of all the skills they have learned within the CIS major. Students must be able to analyze needs, design solutions, and fulfill applicable documentation requirements. Students must be able to develop the actual solution required through the entire systems life cycle, and successfully demonstrate their system. Understanding of all of the different areas of CIS is critical for development of a successful project.

   Secondly, students are evaluated by in-course exams and projects to measure their learning. Exams cover material from the textbooks, instructor lecture, or activities completed during the course. Projects are opportunities for the students to display their understanding of the concepts taught in the course.

   Thirdly, students are assessed each year by UAM's participation in the Arkansas Collegiate Programming Competition. As a School, UAM typically sends two teams of three students per team to participate in the contest. The Arkansas Collegiate Programming Contest is sponsored annually by the TresNet Division of Acxiom Corporation. CIS and CS teams representing every university in the state are given six problems to solve in five hours. Students practice for four weeks and hold mock competitions in preparation for the event. Students are not only placed on the team for their technical ability, but for their individual abilities to work as a team in a high stress situation. This encourages social and life skills, as well as, technical skills of each student. The contest also gives our students valuable exposure to the fast paced world of IT careers, opportunities to network with other students, make employment contacts, and measure themselves against teams from other universities.

UAM Team Finishes in Arkansas Collegiate Programming Competition in Recent Years

Year	Finish
2010	1st and 2nd
2009	1st and 2nd
2008	1st
2006	2nd and 3rd
2005	3rd

Finally, the program itself undergoes an annual assessment reporting process whereby faculty assess the program on the basis of student learning outcomes and how they relate to the mission of the University, student performance and evaluation, and program efforts in the area of student retention, and submit this annual assessment report to the University Provost each August.

2. Describe program/major exit or capstone requirements.

CIS 4633 Application Software Development Project (aka Senior Project) is the capstone course for a CIS major. The class provides students with an opportunity to synthesize concepts previously learned in their curriculum and apply creativity and critical thinking, along with communication and troubleshooting skills to develop an information system. The objectives of the capstone course are to analyze, design, code, test, document, and present an information system; to obtain experiences that better enable the student to enter the job force with confidence; and to demonstrate higher-level communication skills. The grade awarded is based on the student's ability to complete deliverables and product quality results.

Five major sections make up Senior Project. The sections are as follows:

1. Systems analysis and design
2. Programming
3. Documentation
4. System presentation
5. Weekly reporting

In the systems analysis and design section, the students identify the nature and scope of their system. They develop a list of system requirements describing the system features.

Three types of systems modeling (Data, Process, and Object Oriented) are then used to produce appropriate diagrams and documents needed for the system design. Documents such as context diagrams, data flow diagrams, use case narratives, and system flowcharts are created using an appropriate software package. Students then design input screens, web pages, output reports, database schemas, error messages, and test plans. At the end of the systems analysis and design phase, the student compiles a Systems Analysis and Design manual and presents his/her system to the class. Grades are awarded based on the clarity, content, organization, and presentation of their system.

The second phase, programming, starts after the system has been analyzed and designed. Minimum requirements are the use of a database, extensive use of one programming language with programmer-generated internal program documentation expected, a password system, a user-friendly Graphic User Interface (GUI) with appropriate system security, reports, and a web page. If the minimum programming is done successfully, the grade received will be a "B". In order to receive an "A", students must go beyond the minimum and add additional technical features. Examples of past additional features are using an open source database instead of SQL or Access, programming in a language not taught at UAM, and adding JavaScript to web pages.

During the programming phase, students are also expected to contribute to a *Book of Knowledge.* This "book" is actually online documentation of items that students have researched and written up to share; a task created to promote both research and technical writing skills. These contributions can be anything from an Internet site that provides a forum on VB.Net to the code they wrote to solve a particular problem. Anything the student must research can become a contribution to the *Book of Knowledge*. Giving points for research forces the students to effectively search for solutions and/or teach themselves something new. One of the goals of this exercise is to make them think and not expect to have the answer handed to them. Each year the *Book of Knowledge* is added to providing current students the knowledge of those going before them. In fact, one semester, the book was cleaned out and three CIS alumni emailed to say they used that information in their current job and wanted the old items to stay out there.

Documentation of the system is the third phase in Senior Project. Both a user manual and a system manual are required. The system manual is written with the computer programmer in mind. This manual contains technical information such as system design, database information, and hard copies of the code. The user manual is written with the end user in mind. The approach in this manual is user-friendly and non-technical in nature. People with no computer experience should be able to use this manual and correctly operate the system. Students are graded based on the contents, user friendliness, organization, and

presentation of these manuals. Students are also encouraged to make themselves a duplicate copy of these manuals to take on job interviews as a portfolio of their work. Everything from their analysis and design skills to their technical abilities can be showcased. One graduate said she took her manuals on a job interview, spent a good part of the interview showing her manuals, which in her words "blew them away", and got the job.

The system presentation asks the students to reflect on the work done during the semester. Students display two items that best illustrate their design skills, talk about the two things in their system of which they are the proudest, and share two things they have learned about themselves during the senior project experience. Procrastination is often a term heard when students discuss what they have learned about themselves, which is understandable since this class is a more self-motivation class than many of their other classes. The other comment is along the lines of "I can do this!" This statement reflects back on the class objective of enabling students to obtain experiences that help them enter the job force with confidence.

Weekly status reporting is an ongoing part of the senior project experience that lasts the entire semester. The status reporting consists of a Gantt chart and a status report. The students enter deliverables into a Gantt chart and update this weekly. Students also prepare a status report to communicate to the instructor the status of their project. This report contains information such as accomplishments this week, things that went well, and problems they are experiencing.

Senior Project is a way for students to actively demonstrate the knowledge and skills acquired from previous courses. The course requirements for Senior Project are ever changing. This course will continue to evolve based on changes in the IT industry and input from students, alumni, and employers.

3. Provide information on how teaching is evaluated, the use of student evaluations, and how the results have affected the curriculum.

Teaching is evaluated as a central component of the faculty evaluation process by classroom observation by unit head/peer, student evaluations, and student performance in the classroom.

The classroom observance portion of the evaluation process focuses on faculty's preparation/organization in the classroom, knowledge and presentation of the content, and communication and interpersonal relationship skills. These three areas are crucial for effective teaching. This evaluation gives the reviewer a chance to provide constructive

criticism on teaching performance and suggest possible improvements. Please refer to Appendix F, Figure C for the Classroom Visit Evaluation Form for reference.

Student evaluations are an important means of feedback on the instructor's performance, the course content, and an opportunity to provide valuable comments and feedback for possible improvements in the course. Students are first asked to evaluate themselves as a student, thus providing some context for their input in regard to their classification, effort level, attendance, projected grade, and academic history. Students next evaluate the instructor on material presentation, teaching performance, and effectiveness. After evaluating the instructor, the student evaluates the course itself in the areas of content, testing, assignments, and textbooks. Student input is valuable in both the faculty evaluation process and feedback on the courses themselves.

Student evaluation of courses is an important part of the process whereby the faculty review our curriculum. Student written comments in particular can provide valuable insight that faculty can consider for changes in course content or curriculum, or the possible creation of new courses.

4. Provide transfer information for major/declared students including the receiving institutions for transfer and programs of study.

   Incoming transfer students are welcomed to the program, faculty analyze their transferring coursework and advise them on which classes will fulfill specific UAM requirements towards their degree program. As part of this effort, faculty monitor other CIS programs in the state and region for similarities and differences, as this information can help in advising transfer students and their incoming credits. From the time period of 2000-2010, the program has had 75 students who entered the CIS program as transfer students and have gone on to complete their CIS degree at UAM.

5. Provide information for program graduates continuing their education by entering graduate school or by performing volunteer service.

   The CIS curriculum has been designed to fulfill as many of the requirements of graduate school as possible. Over the past three years, seven CIS graduates have completed their degree with the intention of proceeding to graduate school. Beginning in 2011, the School of Computer Information Systems will be providing an informational session to help students understand graduate school choices in the area, the admissions process, and requirements for respective programs.

6. Provide aggregate results of student/alumni/employer satisfaction surveys.

Please find below the results of our fall 2009 student satisfaction survey. Surveys are conducted in the fall and spring semesters. Students provide information in regard to self-evaluation, instructor evaluation, and finally evaluation of the course itself.

Description of Sample

The sample for this particular analysis is composed of the results from eight courses of the student satisfaction survey for fall 2009, chosen at random.

Student Evaluation of Teaching Results

Student Self-Evaluation

1.This course is ---------- A=Required, B=Elective, C=Audit

R=Required E=Elective A=Audit

Values expressed in numbers of students

Course A			Course B			Course C			Course D			Course E			Course F			Course G			Course H		
R	**E**	**A**	**R**	**E**	**A**	**R**	**E**	**A**	**R**	**E**	**A**	**R**	**E**	**A**	**R**	**E**	**A**	**R**	**E**	**A**	**R**	**E**	**A**
13	6	0	8	4	0	8	0	0	3	8	0	5	8	1	16	3	1	13	7	0	2	4	0

2. My current UAM grade point average (GPA) ---------- A B C D E

3.6-4.0 3.1-3.5 2.6-3.0 2.0-2.5 0.5-1.9

Values expressed in Mean Responses – A=1 B=2 C=3 D=4 E=5

Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H
2.68	2.67	2.63	2.82	2.71	2.65	2.79	2.33

3. I am presently a ---------- Fr So Jr Sr Other

Values expressed in Mean Responses – Fr = 1, So=2, Jr = 3, Sr = 4, Other = 5

Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H
2	1.33	3.88	1.64	3.43	2.2	3.35	3.67

4. Number of times I was absent from this class ---------- 0 1 2 3 4+

Values expressed in Mean Responses – 1=0 absences, 2=1 absences, 3=2 absences, 4=3 absences, 5= 4+ absences

Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H
3.28	3.25	2.5	3	2.71	2.95	1.5	2.83

5. Estimated weekly hours I spent studying for this course ---------- 0-2 3-5 6-8 9-11 12+

Values expressed in Mean Responses – 1= 0-2 hours, 2=3-5 hours, 3=6-8 hours, 4=9-11 hours, 5=12+ hours

Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H
1.63	1.58	1.63	1.4	1.93	1.53	1.65	1.5

6. My final grade in this course will probably be ---------- A B C D F

Values expressed in Mean Responses- 1= A, 2=B, 3=C, 4=D, 5=F

Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H
1.74	1.92	2.25	1.64	1.85	1.3	2.1	1.5

For questions 7-32, responses are on the following scale

Excel-lent	**Very Good**	**Good**	**Fair**	**Poor**
A	B	C	D	F

7. My class participation was ---------- A B C D E

Values expressed in Mean Responses- 1= A, 2=B, 3=C, 4=D, 5=F

Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H
2.05	2	1.63	1.91	1.79	1.8	2.1	1.83

8. My interest in taking this course before I enrolled was---------- A B C D E

Values expressed in Mean Responses- 1= A, 2=B, 3=C, 4=D, 5=F

Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H
2.26	1.83	2.13	2.36	1.57	1.65	2	1.5

9. My current interest in this course is---------- A B C D E

Values expressed in Mean Responses- 1= A, 2=B, 3=C, 4=D, 5=F

Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H
2.11	1.75	1.75	1.62	1.79	1.4	1.5	1.83

10. Amount I have learned---------- A B C D E

Values expressed in Mean Responses- 1= A, 2=B, 3=C, 4=D, 5=F

Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H
1.63	1.58	1.5	1.55	1.79	1.5	1.2	1.67

Instructor Evaluation

11. Explains subject matter so that I understand---------- A B C D E

Values expressed in Mean Responses- 1= A, 2=B, 3=C, 4=D, 5=F

Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H
1.44	1.33	1.38	1.27	2.14	1.15	1.25	1.5

12. Speaks clearly---------- A B C D E

Values expressed in Mean Responses- 1= A, 2=B, 3=C, 4=D, 5=F

Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H
1.39	1.25	1.38	1.27	1.79	1.2	1.15	1.17

13. Demonstrates knowledge of subject---------- A B C D E

Values expressed in Mean Responses- 1= A, 2=B, 3=C, 4=D, 5=F

Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H
1.42	1.08	1.38	1.18	1.64	1.25	1.2	1.33

14. Uses appropriate teaching aids effectively---------- A B C D E

Values expressed in Mean Responses- 1= A, 2=B, 3=C, 4=D, 5=F

Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H
1.47	1.33	1.25	1.36	1.5	1.2	1.2	1.67

15. Promotes independent thought while offering proper guidance---------- A B C D E

Values expressed in Mean Responses- 1= A, 2=B, 3=C, 4=D, 5=F

Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H

1.47	1.33	1.5	1.45	1.64	1.3	1.2	1.5

16. Encourages effective communication skills---------- A B C D E

Values expressed in Mean Responses- 1= A, 2=B, 3=C, 4=D, 5=F

Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H
1.37	1.25	1.63	1.55	1.93	1.35	1.1	1.33

17. Is well prepared for class---------- A B C D E

Values expressed in Mean Responses- 1= A, 2=B, 3=C, 4=D, 5=F

Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H
1.53	1.08	1.38	1.18	1.79	1.1	1.15	1.5

18. Is available for help during posted office hours---------- A B C D E

Values expressed in Mean Responses- 1= A, 2=B, 3=C, 4=D, 5=F

Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H
1.32	1.33	1.5	1.36	1.64	1.25	1.1	1.5

19. Shows concern for students---------- A B C D E

Values expressed in Mean Responses- 1= A, 2=B, 3=C, 4=D, 5=F

Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H
1.37	1.42	1.38	1.73	1.64	1.1	1	1.17

20. Increases my desire to learn more about the subject---------- A B C D E

Values expressed in Mean Responses- 1= A, 2=B, 3=C, 4=D, 5=F

Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H
1.53	1.67	1.25	1.45	1.93	1.25	1.1	1.67

21. Comments on my work (tests/assignments) in ways that help me to learnABCDE

Values expressed in Mean Responses- 1= A, 2=B, 3=C, 4=D, 5=F

Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H
1.42	1.25	1.25	1.64	1.71	1.45	1.15	1.67

22. Shows interest in subject matter---------- A B C D E

Values expressed in Mean Responses- 1= A, 2=B, 3=C, 4=D, 5=F

Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H
1.32	1.08	1.25	1.36	1.71	1.25	1.2	1.5

23. Establishes relevance of subject matter---------- A B C D E

Values expressed in Mean Responses- 1= A, 2=B, 3=C, 4=D, 5=F

Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H
1.53	1	1.38	1.27	1.79	1.15	1.25	1.83

24. Overall effectiveness as a teacher---------- A B C D E

Values expressed in Mean Responses- 1= A, 2=B, 3=C, 4=D, 5=F

Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H
1.32	1.25	1.25	1.36	1.64	1.15	1.2	1.83

Course Evaluation

25. Goals and objectives clearly stated and are being accomplished---------- A B C D E

Values expressed in Mean Responses- 1= A, 2=B, 3=C, 4=D, 5=F

Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H
1.53	1.17	1.5	1.45	1.71	1.2	1.15	1.83

26. Course content organized---------- A B C D E

Values expressed in Mean Responses- 1= A, 2=B, 3=C, 4=D, 5=F

Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H
1.47	1.25	1.5	1.36	1.64	1.25	1.2	2

27. Exams based on lectures and assigned materials---------- A B C D E

Values expressed in Mean Responses- 1= A, 2=B, 3=C, 4=D, 5=F

Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H
1.42	1.08	1.5	1.27	1.57	1.2	1.15	1.5

28. Exam questions clearly written---------- A B C D E

Values expressed in Mean Responses- 1= A, 2=B, 3=C, 4=D, 5=F

Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H
1.47	1.17	1.38	1.27	1.57	1.2	1.15	1.5

29. Grading procedures based on criteria in syllabus---------- A B C D E

Values expressed in Mean Responses- 1= A, 2=B, 3=C, 4=D, 5=F

Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H
1.42	1.08	1.38	1.36	1.5	1.15	1.15	1.17

30. Course experiences relevant to subject matter---------- A B C D E

Values expressed in Mean Responses- 1= A, 2=B, 3=C, 4=D, 5=F

Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H
1.42	1.25	1.5	1.27	1.71	1.15	1.15	1.83

31. Usefulness of textbook---------- A B C D E

Values expressed in Mean Responses- 1= A, 2=B, 3=C, 4=D, 5=F

Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H
1.32	1.33	1.5	1.18	2.07	1.5	1.25	1.17

32. Usefulness of outside assignments---------- A B C D E

Values expressed in Mean Responses- 1= A, 2=B, 3=C, 4=D, 5=F

Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H
1.74	1.5	1.63	1.36	1.93	1.4	1.2	2

33. Pace of presentation---------- A=too slow, B=OK C=too fast

Values expressed in Mean Responses- 1= A, 2=B, 3=C

Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H
1.67	1.09	1.75	1.45	1.93	1.35	1.37	2.5

	Excel-lent	**Very good**	**Good**	**Fair**	**Poor**
34. Overall rating of this course	**A**	**B**	**C**	**D**	**E**

Values expressed in Mean Responses- 1= A, 2=B, 3=C, 4=D, 5=F

Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H
1.42	1.09	1.38	1.36	1.79	1.11	1.37	1.8

CIS Alumni Survey Results

Please find below analysis of our 2009 CIS alumni survey. This survey is conducted annually. Alumni are selected from one-, three-, and five-year intervals from their date of graduation, and the entire graduating class from these respective years receives the opportunity to provide feedback on how the CIS program prepared them for a career in the field of Information Technology. Alumni are asked to evaluate their former faculty on instruction and advising, program facilities, degree requirements, supportive requirements, and the CIS program as a whole. Please see Appendix F for the CIS Alumni Survey.

Description of Sample

Seventy-one surveys were mailed to 2004 (34), 2006 (20), and 2008 (17) graduates. Nine completed surveys were returned; four from the 2004 class, two from the 2006 class, and three from the 2008 class. Four respondents were female and five were male. Five surveys were returned as undeliverable, with four of them being resent. For historical perspective, the survey has averaged 11.6 responses per year for the past five years.

Degree Relationship to Employment

Nine respondents are working in the CIS field as programmers, GIS Analysts, network analysts, data analysts, desktop support, system analysts, and management. Nine respondents indicated that current employment is directly related or somewhat related to their CIS degree. Nine respondents indicated that the CIS degree prepared them for their position and nine respondents believed that the CIS degree enhanced their prospects for future advancement.

Learning Outcomes

The responses for growth measurement were scored on a semantic differential scale where 1 = "No growth" and 5 = "Great growth." The responses for the emphasis measurement were scored on a Likert scale where 1 = "Too little," 2 = "About right," and 3 = "Too much."

Learning Outcome One (Productivity Software Packages)

Eight respondents indicated that the instruction received helped prepare them to expand their knowledge of productivity software packages in their present position (*M*=3.67). Eight respondents indicated that the emphasis on productivity software packages was "about right" (*M*=1.89).

Five Year Comparison of Learning Outcome One					
Growth			**Emphasis**		
Survey Year	Respondents	Mean	Survey Year	Respondents	Mean
2005	13	3.31	2005	13	1.62
2006	11	4.00	2006	11	1.91
2007	14	3.43	2007	14	1.71
2008	11	4.00	2008	11	1.91
2009	9	3.67	2009	9	1.89

Learning Outcome Two (Programming Languages)

Eight respondents indicated that the instruction received helped prepare them to expand their knowledge of programming languages in their present position (*M*=3.89). Six respondents indicated that the emphasis on programming languages was "about right" (*M*=1.67).

Five Year Comparison of Learning Outcome Two					
Growth			**Emphasis**		
Survey Year	Respondents	Mean	Survey Year	Respondents	Mean
2005	13	3.08	2005	13	1.77
2006	10	4.00	2006	7	1.64
2007	14	3.43	2007	14	1.64
2008	11	3.91	2008	9	1.82
2009	9	3.89	2009	9	1.67

Learning Outcome Three (IS Development Methods and Techniques)

Six respondents indicated that the instruction received helped prepare them to expand their knowledge of information systems development methods and techniques in their present position (*M*=3.56). Six respondents indicated that the emphasis on information systems development methods and techniques was "about right" (*M*=1.67).

Five Year Comparison of Learning Outcome Three					
Growth			**Emphasis**		
Survey Year	Respondents	Mean	Survey Year	Respondents	Mean
2005	13	2.85	2005	12	1.58
2006	11	4.09	2006	10	1.91
2007	14	3.00	2007	14	1.57
2008	11	4.46	2008	11	2.09
2009	9	3.56	2009	9	1.67

Learning Outcome Four (Data Communications and Local Area Networks)

Six respondents indicated that the instruction received helped prepare them to expand their knowledge of data communications and local area networks in their present position (*M*=2.89). Four respondents indicated that the emphasis on data communications and local area networks was "too little" and five respondents indicated that the emphasis was "about right" (*M*=1.56).

Five Year Comparison of Learning Outcome Four					
Growth			**Emphasis**		
Survey Year	Respondents	Mean	Survey Year	Respondents	Mean
2005	13	2.92	2005	13	1.31
2006	10	2.82	2006	8	1.27
2007	14	3.07	2007	14	1.50
2008	11	3.64	2008	11	1.73
2009	9	2.89	2009	9	1.56

Learning Outcome Five (Teamwork Problem-solving Skills)

Seven respondents indicated that the instruction received helped prepare them to expand their knowledge of teamwork problem-solving skills in their present position (*M*=3.78). Six respondents indicated that the emphasis on teamwork problem-solving skills was "about right" (*M*=1.89)

Five Year Comparison of Learning Outcome Five					
Growth			**Emphasis**		
Survey Year	Respondents	Mean	Survey Year	Respondents	Mean
2005	13	3.31	2005	13	1.85
2006	10	4.00	2006	5	1.82
2007	14	3.50	2007	14	1.64
2008	11	4.18	2008	11	1.91

2009	9	3.78	2009	9	1.89

Learning Outcome Six (General Education – Critical Thinking Skills)

Six respondents indicated that the instruction received helped prepare them to expand their knowledge of critical thinking skills in their present position (*M*=3.56). Six respondents indicated that the emphasis on critical thinking skills was "about right" (*M*=1.67).

Five Year Comparison of Learning Outcome Six					
Growth			**Emphasis**		
Survey Year	Respondents	Mean	Survey Year	Respondents	Mean
2005	13	3.08	2005	13	1.77
2006	11	4.18	2006	11	2.00
2007	14	3.50	2007	14	1.71
2008	11	4.00	2008	11	1.91
2009	9	3.56	2009	9	1.67

Supportive Requirements

The responses for growth measurement were scored on a semantic differential scale where 1 = "No growth" and 5 = "Great growth." The responses for the emphasis measurement were scored on a Likert scale where 1 = "Too little," 2 = "About right," and 3 = "Too much."

Small Group Communication

Seven respondents indicated that the instruction received helped prepare them to expand their knowledge of small group communication in their present position (*M*=3.11). Eight respondents indicated that the emphasis on small group communication was "about right" (*M*=1.89).

Five Year Comparison of Supportive Requirement in Small Group Comm					
Growth			**Emphasis**		
Survey Year	Respondents	Mean	Survey Year	Respondents	Mean
2005	13	3.15	2005	13	1.85
2006	10	4.10	2006	7	2.00
2007	14	3.71	2007	14	1.79
2008	11	4.18	2008	11	2.00
2009	9	3.11	2009	9	1.89

Technical Writing

Nine respondents indicated that the instruction received helped prepare them to expand their knowledge of technical writing in their present position (*M*=3.33). Eight respondents indicated that the emphasis on technical writing was "about right" (*M*=2.11).

Five Year Comparison of Supportive Requirement in Technical Writing					
Growth			**Emphasis**		
Survey Year	Respondents	Mean	Survey Year	Respondents	Mean
2005	12	3.25	2005	12	1.92
2006	11	4.00	2006	10	1.91
2007	14	3.57	2007	14	1.71
2008	11	4.09	2008	11	2.00
2009	9	3.33	2009	9	2.11

Accounting

Seven respondents indicated that the instruction received helped prepare them to expand their knowledge of accounting in their present position (*M*=3.00). Six respondents indicated that the emphasis on accounting was "about right" (*M*=2.00).

Five Year Comparison of Supportive Requirement in Accounting					
Growth			**Emphasis**		
Survey Year	Respondents	Mean	Survey Year	Respondents	Mean
2005	13	3.23	2005	13	2.08
2006	10	3.73	2006	8	2.09
2007	14	3.14	2007	14	1.71
2008	10	3.90	2008	10	2.00
2009	9	3.00	2009	8	2.00

Economics

Seven respondents indicated that the instruction received helped prepare them to expand their knowledge of economics in their present position (*M*=3.00). Seven respondents indicated that the emphasis on economics was "about right" (*M*=1.88).

Five Year Comparison of Supportive Requirement in Economics					
Growth			**Emphasis**		
Survey Year	Respondents	Mean	Survey Year	Respondents	Mean
2005	13	2.85	2005	13	1.92
2006	10	3.73	2006	9	2.00
2007	14	3.29	2007	14	1.79
2008	10	4.00	2008	10	2.00
2009	8	3.00	2009	8	1.88

Statistics

Six respondents indicated that the instruction received helped prepare them to expand their knowledge of statistics in their present position (*M*=2.56). Six respondents indicated that the emphasis on statistics was "about right" (*M*=1.89).

Five Year Comparison of Supportive Requirement in Statistics					
Growth			**Emphasis**		
Survey Year	Respondents	Mean	Survey Year	Respondents	Mean
2005	13	3.00	2005	13	1.85
2006	10	3.55	2006	6	1.91
2007	14	2.86	2007	14	1.64
2008	10	3.70	2008	10	1.80
2009	9	2.56	2009	9	1.89

Management

Seven respondents indicated that the instruction received helped prepare them to expand their knowledge of management in their present position (*M*=3.22). Eight respondents indicated that the emphasis on management was "about right" (*M*=1.89).

Five Year Comparison of Supportive Requirement in Management					
Growth			**Emphasis**		
Survey Year	Respondents	Mean	Survey Year	Respondents	Mean
2005	13	3.00	2005	13	1.85
2006	11	3.82	2006	9	1.82
2007	14	2.86	2007	14	1.43
2008	10	3.50	2008	10	1.60

2009	9	3.22	2009	9	1.89

Marketing

Seven respondents indicated that the instruction received helped prepare them to expand their knowledge of marketing in their present position (*M*=3.00). Eight respondents indicated that the emphasis on marketing was "about right" (*M*=1.89).

Five Year Comparison of Supportive Requirement in Marketing					
Growth			**Emphasis**		
Survey Year	Respondents	Mean	Survey Year	Respondents	Mean
2005	13	2.85	2005	13	1.85
2006	10	3.73	2006	10	1.91
2007	14	2.86	2007	14	1.79
2008	10	3.70	2008	10	1.90
2009	9	3.00	2009	9	1.89

Satisfaction with Learning Experience

The responses for the Satisfaction with Learning Experience measurement were scored on a Likert scale where 1 = "Very dissatisfied," 2 = "Dissatisfied," 3 = "Neutral," 4= "Satisfied," and 5 = "Very satisfied."

The measurement was conducted with 16 items that included 1) Academic advising (*M*=4.11), 2) Quality of instruction (*M*=4.00), 3) Course content (*M*=3.44), 4) Level of rigor and scholarship (*M*=3.33), 5) CIS curriculum (*M*=3.22), 6) Required courses outside CIS – Supportive Courses (*M*=3.78), 7) Class size (*M*=4.11), 8) CIS faculty (*M*=4.22), 9) CIS staff (*M*=4.44), 10) Computer technology (*M*=4.11), 11) CIS seminar courses (*M*=3.56), 12) Availability of classes (*M*=3.56), 13) Time at which major courses were offered (*M*=3.67), 14) Personal attention (*M*=3.78), 15) CIS facilities (*M*=3.78), and 16) Overall quality of your education (*M*=3.89).

Five Year Comparison of Satisfaction with Learning Experience MEANS					
Scale Item	**Survey Year**				
	2005	**2006**	**2007**	**2008**	**2009**
Academic Advising	4.00	4.27	4.21	4.64	4.11
Quality of Instruction	4.08	4.18	4.00	4.36	4.00
Course Content	3.77	4.10	3.57	4.00	3.44
Level of Rigor	3.42	4.18	3.50	4.09	3.33
CIS Curriculum	2.92	3.82	3.29	3.91	3.22
Supportive Courses	3.00	3.91	3.50	4.09	3.78
Class Size	3.92	4.55	4.29	4.73	4.11
CIS Faculty	3.61	4.64	4.29	4.64	4.22
CIS Staff	4.07	4.55	4.43	4.64	4.44
Computer Technology	3.54	4.18	3.93	4.09	4.11
CIS Seminar Courses	3.23	3.64	3.29	3.91	3.56
Availability of Classes	3.62	3.73	3.71	4.46	3.56
Time Offered	3.62	3.91	3.64	4.46	3.67
Personal Attention	3.62	4.27	4.00	4.73	3.78
CIS Facilities	3.92	3.82	3.79	3.91	3.78
Overall Quality	3.53	4.10	3.79	4.64	3.89

Employer Survey Results

Please find analysis of our 2008 employer survey below. This survey is conducted every five years, most recently in 2008. The survey attempts to gather information about the employing organization, and the value it places on things such as critical thinking, ethics, professionalism,

business fundamentals, communication skills, teamwork, and certain technical skills. Please see Appendix F for the CIS Employer Survey.

Description of Study

The study instrument used the skill descriptors identified in the Information Systems 2002 Model Curriculum developed by Gorgon et al. (2002). The model curriculum identifies 39 items in five categories that measure the employer's perceived importance of these information systems employee skills. The respondents were asked to indicate the level of importance of each skill item for them and to rate the level of competence of graduates on each skill item. Skill items related to each of the learning objectives and each of the supportive requirements were aggregated to develop a composite test item for each assessment category.

Reporting of Previous Studies

The initial employer survey was conducted in 2003, results were analyzed in 2004, and results reported in the 2005 Assessment Report. A second data set was collected in 2005. The data was to be analyzed during 2006 and results to be reported in the 2007 Assessment Report. Unfortunately, only five of 67 surveys were returned. The small sample size precludes any meaningful analysis. A new employer survey mailing was conducted in 2008 and is reported here, in keeping with the plan to collect employer data every five years.

Description of Sample

One-hundred-thirty-eight surveys were mailed to businesses in the southeast region of Arkansas where the university recruits students. Twenty-one completed surveys were returned representing eight different types of businesses. Four surveys were returned as undeliverable.

Employment Criteria

Respondents identified multiple criteria used for hiring new employees, including 1) Work experience (86%), 2) Recommendations (48%), 3) Social skills (48%), 4) College degree (38%), 5) College major/minor (33%), 6) Other Criteria (24%), and 7) Performance on internal exams (5%).

Comparison of 2008 and 2003 Hiring Criteria		
Year of Survey	2008	2003
Number of Respondents	21	19

Work Experience	86%	74%
Recommendations	48%	47%
Social Skills	48%	26%
College Degree	38%	47%
College Major/Minor	33%	16%
Other Criteria	24%	0%
Performance Exams	5%	21%

The percentages indicate that social skills, the major/minor and other unspecified criteria have become more important when hiring while the college degree and performance on internal exams have decreased in importance when hiring.

Introduction to Significance Testing

The 2003 employer survey directly referenced UAM graduates while the 2008 employer survey referenced graduates in general, so these comparisons may not be comparing the same audience. We made the wording change in the survey because many of the 2003 respondents stated that they did not have any UAM graduates working for them but completed the survey based on their recent hires.

The employer rating of the importance of the Learning Objectives and Supportive Requirements were compared to the employer rating of graduate competence. Because the sample sizes are small, probability for significant differences was set at $p < .01$.

Learning Objectives

The responses for the employer rating of importance and the employer rating of graduates were scored using a Likert scale where 1 = "Very low," 2 = "Low," 3 = "Average," 4 = "High," and 5 = "Very high." The two ratings on each item were compared using a 2-tailed Match Pairs T test.

Learning Objective One (Productivity Software Packages)

A comparison of the difference between employer rating of the importance of productivity software packages skills (M = 3.6) and the employer rating of graduate competence with productivity software packages skills (M = 3.2) was not significant (df = 17, t = 2.39, $p < .03$).

Comparison of Learning Objective One			
Year	Importance Mean	Rating Mean	T-Test
2008	3.6	3.2	*df* = 17, *t* = 2.39, *p* < .03
2003	3.7	3.7	*df* = 10, *t* = .11, *p* < .94

Learning Objective Two (Programming Languages)

A comparison of the difference between employer rating of the importance of programming languages skills (*M* = 3.0) and the employer rating of graduate competence with programming languages skills (*M* = 2.6) was significant (*df* = 16, *t* =

2.42, *p* < .03).

Comparison of Learning Objective Two			
Year	Importance Mean	Rating Mean	T-Test
2008	3.0	2.6	*df* = 16, *t* = 2.42, *p* < .03
2003	2.6	3.5	*df* = 9, *t* = -5.02, *p* < .01

Learning Objective Three (IS Development Methods and Techniques)

A comparison of the difference between employer rating of the importance of IS development methods and techniques skills (*M* = 3.4) and the employer rating of graduate competence with IS Development methods and techniques skills (*M* = 2.6) was significant (*df* = 15, *t* = 4.02, *p* < .001).

Comparison of Learning Objective Three			
Year	Importance Mean	Rating Mean	T-Test
2008	3.4	2.6	*df* = 15, *t* = 4.02, *p* < .001
2003	2.6	3.0	*df* = 8, *t* = -2.31, *p* < .05

Learning Objective Four (Data Communications and Local Area Networks)

A comparison of the difference between employer rating of the importance of data communications and LAN skills (M = 3.5) and the employer rating of graduate competence with data communications and LAN skills (M = 2.7) was significant (df = 17, t = 4.56, p < .001).

Comparison of Learning Objective Four			
Year	Importance Mean	Rating Mean	T-Test
2008	3.5	2.6	df = 17, t = 4.56, p < .001
2003	3.2	3.4	df = 10, t = -0.38, p < .72

Learning Objective Five (Teamwork Problem-solving Skills)

A comparison of the difference between employer rating of the importance of teamwork problem-solving skills (M = 3.8) and the employer rating of graduate competence with teamwork problem-solving skills (M = 2.8) was significant (df = 14, t = 6.11, p < .001).

Comparison of Learning Objective Five			
Year	Importance Mean	Rating Mean	T-Test
2008	3.8	2.8	df = 14, t = 6.11, p < .001
2003	3.4	3.3	df = 8, t = 0.54, p < .60

Learning Objective Six (General Education – Critical Thinking Skills)

A comparison of the difference between employer rating of the importance of critical thinking skills (M = 4.5) and the employer rating of graduate competence with critical thinking skills (M = 3.3) was significant (df = 16, t = 12.74, p < .001).

Comparison of Learning Objective Six			
Year	Importance Mean	Rating Mean	T-Test
2008	4.5	3.3	df = 16, t = 12.74, p < .001

2004	4.4	3.5	*df* = 11, *t* = 5.88, *p* < .001

Supportive Requirements

The responses for the employer rating of importance and the employer rating of UAM graduates were scored using a Likert scale where 1 = "Very low," 2 = "Low," 3 = "Average," 4 = "High," and 5 = "Very high." The two ratings on each item were compared using a 2-tailed Match Pairs T test.

Small Group Communication

A comparison of the difference between employer rating of the importance of small group communication skills (*M* = 4.2) and the employer rating of graduate competence with small group communication skills (*M* = 3.1) was significant (*df* = 16, *t* = 5.90, *p* < .001).

Comparison of Supportive Requirement – Group Communication			
Year	Importance Mean	Rating Mean	T-Test
2008	4.2	3.1	*df* = 16, *t* = 5.90, *p* < .001
2003	4.4	3.3	*df* = 11, *t* = 4.73, *p* < .01

Technical Writing

A comparison of the difference between employer rating of the importance of technical writing skills (*M* = 4.2) and the employer rating of graduate competence with technical writing skills (*M* = 2.9) was significant (*df* = 16, *t* = 5.42, *p* < .01).

Comparison of Supportive Requirement – Technical Writing			
Year	Importance Mean	Rating Mean	T-Test
2008	4.2	2.9	*df* = 16, *t* = 5.42, *p* < .01
2003	4.3	3.3	*df* = 11, *t* = 4.69, *p* < .01

Accounting

A comparison of the difference between employer rating of the importance of accounting skills (*M* = 3.4) and the employer rating of graduate competence with accounting skills (*M* = 2.8) was significant (*df* = 17, *t* = 3.05, *p* <. 007).

Comparison of Supportive Requirement – Accounting			
Year	Importance Mean	Rating Mean	T-Test
2008	3.4	2.8	*df* = 17, *t* = 3.05, *p* <. 007
2003	3.8	3.1	*df* = 11, *t* = 2.15, *p* <. 05

Economics

A comparison of the difference between employer rating of the importance of economics skills (*M* = 3.2) and the employer rating of graduate competence with economic skills (*M* = 2.8) was not significant (*df* = 16, *t* = 1.69, *p* < .111).

Comparison of Supportive Requirement - Economics			
Year	Importance Mean	Rating Mean	T-Test
2008	3.2	2.8	*df* = 16, *t* = 1.69, *p* < .111
2003	3.7	3.4	*df* = 11, *t* = 1.30, *p* < .22

Statistics

A comparison of the difference between employer rating of the importance of statistics skills (*M* = 3.2) and the employer rating of graduate competence with statistics skills (*M* = 2.8) was not significant (*df* = 17, *t* = 1.69, *p* < .110).

Comparison of Supportive Requirement - Statistics			
Year	Importance Mean	Rating Mean	T-Test
2008	3.2	2.8	*df* = 17, *t* = 1.69, *p* < .110
2003	3.1	3.1	*df* = 11, *t* = 0.00, *p* < 1.0

Management

A comparison of the difference between employer rating of the importance of management skills (*M* = 4.0) and the employer rating of graduate competence with management skills (*M* = 2.5) was significant (*df* = 17, *t* = 6.23, *p* < .001).

Comparison of Supportive Requirement - Management			
Year	Importance Mean	Rating Mean	T-Test
2008	4.0	2.5	*df* = 17, *t* = 6.23, *p* < .001
2003	4.0	3.2	*df* = 11, *t* = 3.46, *p* < .01

Marketing

A comparison of the difference between employer rating of the importance of marketing skills (*M* = 3.1) and the employer rating of UAM graduate competence with marketing skills (*M* = 2.6) was not significant (*df* = 16, *t* = 2.50, *p* < .02).

Comparison of Supportive Requirement - Marketing			
Year	Importance Mean	Rating Mean	T-Test
2008	3.1	2.6	*df* = 16, *t* = 2.50, *p* < .02
2003	3.3	3.1	*df* = 11, *t* = 0.82, *p* < .43

Satisfaction with Learning Experience

The responses for the employer rating of importance and the employer rating of UAM graduates were scored using a Likert scale where 1 = "Very low," 2 = "Low," 3 = "Average," 4 = "High," and 5 = "Very high." The two ratings on each item were compared using a 2-tailed Match Pairs T test.

A comparison of the difference between employer rating of the importance of learning skills (*M* = 4.6) and the employer rating of UAM graduate competence with learning skills (*M* = 3.3) was significant (*df* = 16, *t* = 10.94, *p* < .001).

Comparison of Learning Expereince			
Year	Importance Mean	Rating Mean	T-Test
2008	4.6	3.3	*df* = 16, *t* = 10.94, *p* < .001
2003	4.7	3.8	*df* = 11, *t* = 8.46, *p* < .001

Significant Difference Testing

Twenty-eight Independent Samples T-Test procedures were conducted to test if there were any significant differences across the two survey years for the employer rating of importance and the employer rating of graduate competence scales on each of the of the six Learning Objectives, seven Supportive Requirements, and the Learning skills. Because the cell sizes are small, probability for significant differences was set at p < .01.

Three significant differences were found. The graduate competence rating for Learning Objective Two was significantly different (2003 [*M* = 3.5], 2008 [*M* = 2.6], *df*= 25, *t* = 3.10, *p* < .005). The employer rating of importance for Learning Objective Three was significantly different (2003 [*M* = 2.3], 2008 [*M* = 3.2], *df*= 33, *t* = -2.80, *p* < .008). The graduate competence rating for Learning Skills was significantly different (2003 [*M* = 3.8], 2008 [*M* = 3.3], *df*= 27, *t* = 3.68, *p* < .001).

7. Describe how the program is aligned with the current job market needs of the state or local communities.

   Utilizing feedback from alumni and area employers, the School of Computer Information Systems monitors its course offerings and programs and seeks to modify the program to best fulfill the needs of area employers. Due to the size of many local businesses, CIS specializations are often a luxury, thus CIS employees are often asked to be a "jack of all trades", being responsible for connectivity/networking, email, programming or scripting, hardware issues, databases and user support. For students looking for a more specialized career, Little Rock, Monroe, Conway, Pine Bluff, Greenville, and El Dorado are options within 130 miles that offer some larger employers who will be hiring graduates as a Programmer, Database Administrator, Security Administrator, Hardware Technician, or Network Administrator. As a program, the School of Computer Information Systems must cater to both markets, and prepare students for whichever facet of IT they choose as a career. Also, this helps create a well-rounded student. Even if a student chooses a career in programming, they will have some understanding of the "big picture" of the system they work on.

The School of Computer Information Systems is doing an effective job in this area. Students are exposed to many different facets of information technology, getting hardware instruction in the CIS 1193 PC Hardware and Software Maintenance & CIS 4503 Business Data Communications classes. Students are also required to take a minimum of five programming courses (CIS 2203 Programming Logic and Design, CIS 3423 COBOL, CIS 3553 Advanced COBOL, CIS 3443 Object-Oriented Programming Languages, and CIS 3453 World Wide Web Programming) as well as having additional programming options in C# and Java as electives. Additional courses in CIS 4263 Ethics in Information Technology, CIS 4253 CIS Security, CIS 4623 Database Management Systems round out possible course offerings for students to select.

8. Provide job placement information for program graduates including the number of graduates placed in jobs related to the field of study.

   For undergraduate career and technical education programs only, provide the following:

   - Names and location of companies hiring program graduates.
   - Average hourly rate for program graduates.
   - Names of companies requiring the certificate/degree for initial or continued employment.

   Names and locations of some companies hiring program graduates include:

   Windstream Communications – Little Rock, AR
   University of Arkansas at Monticello – Monticello, AR
   Monticello School District – Monticello, AR
   Jefferson Regional Memorial Center – Pine Bluff, AR
   Murphy Oil – El Dorado, AR
   Central Arkansas Development Corporation – Benton, AR
   Hewlett Packard – Conway, AR
   Entergy – Pine Bluff, AR
   State Department of Education – Little Rock, AR
   Dillard's – Little Rock, AR
   Arkansas Children's Hospital -- Little Rock, AR
   CenturyLink -- Monroe LA
   Environmental Systems Research Institute -- Redlands CA
   Shelby Residential and Vocational Services -- Memphis TN
   Acxiom Corporation -- Little Rock, AR

Average hourly salary data derived from alumni surveys as follows. A total of 51 respondents over the past 5 years divulged information on their salaries. From this information, hourly rates ranged from $14 an hour to $54 an hour, with an average hourly rate of $24.15.

In regard to companies requiring the CIS degree for employment, from our Alumni survey, 86% of our alumni informed us that current employment is directly related or somewhat related to their CIS degree.

Program Effectiveness (strengths, opportunities)

1. List the strengths of the program.

The School of Computer Information Systems has many strong points that help position it to succeed in our mission. Some of these strengths include our membership in the Microsoft Academic Alliance, a strong faculty, commitment to provide the latest in software upgrades, an active CIS student organization and the desirability of the CIS major.

Basic information about the Academic Alliance program from
http://msdn.microsoft.com/en-us/academic/default
The MSDN (Microsoft Developer Network) Academic Alliance as a program offers annual memberships for academic departments. The program has two primary goals:

1. To make is easier and less expensive for you to obtain Microsoft developer tools, platforms, and servers for instructional and research purposes
2. To build a community of instructors who can share curriculum and other learning resources to support the use of these technologies.

As a member, a department received an MSDN Academic Alliance subscription that includes Microsoft platform, servers, and developer tools software. That software may be installed on any number of departmental lab machines. This software must be used for instructional and research purposes, and it may not be used to run the infrastructure of the department. In addition, the department's faculty and students may check-out or download the software to install on their personal computers.

The MSDN Academic Alliance program allows students enrolled in programming and development courses to receive Microsoft software that is used in the instructional classes. All enrolled students are automatically added to the access list at the beginning of each semester. Once students receive their username and password they have the ability to check-out the following software (at no cost to the student):

Developer Tools
Visual Studios 2008 Professional
Visual Studios.NET 2005
Visual Fox Pro 9.0
Access 2003
Access 2007
eMbededded Visual C++ 4.0 with SP2
Expression Studio 3
Project Professional 2007
Virtual PC 2007
Visio Professional 2007
Visual C++ 1.52

Servers
Windows Server 2003 R2 Enterprise Edition with SP2
Windows Server 2003 R2 Standard Edition with SP2
Windows Server 2003 Web Editions
Windows Virtual Server 2005 R2
SQL Server 2005 Developer Edition with SP1
SQL Server 2005 Standard Edition with SP1
SQL Server 2008

Operating Systems
Windows 7
Windows Vista with SP1
Windows Vista
Windows XP with SP2

The importance of the MSN Academic Alliance program to the CIS program cannot be understated. Many CIS majors come from economically disadvantaged areas, and the ability for students to access all of this software for free is critical for them to complete projects without having to return to campus in the evenings after work commitments.

The School of Computer Information Systems has a strong and well-experienced faculty who are dedicated to the mission of the University and the School itself. The CIS faculty have an average of 16.17 years of collegiate teaching experience. The size of the university enables the School of Computer Information Systems to maintain a relatively low student to faculty ratio (13.6 students to 1 faculty for fall 2010 semester). This enables instructors to get to know their students, understand their learning styles, and provide one-on-one instruction that is essential to the success of students.

Faculty also use strong interpersonal relationships in the area of advising, guiding students to fulfill their degree requirements as quickly as possible, working with the students to develop schedules around work/family concerns, and helping choose electives that will best prepare students for their particular career choice in the field of Information Technology. Faculty is available for consultation with students via designated office hours, email, phone or by appointment outside of office hours. CIS faculty encourages students to stop by with an open door policy. Faculty also makes use of regular degree audits to best plan out upcoming semesters before class preregistration. This ensures that students are enrolling in the appropriate classes to finish their degree requirements and it also provides them a prime opportunity to discuss current and subsequent semester concerns with their advisor. Faculty also assists students with resume and interview preparation, locating internships, and serve as a listener when students wish to discuss other problems.

These relationships continue as the student transitions from CIS majors/minors to alumni. Faculty maintain contact with former CIS students, and encourage them to join the UAM CIS Alumni Facebook group. This usage of social media helps maintain lines of communication with alumni and makes it easier to provide informational updates to them and notify them of job possibilities, alumni events, or discuss the possibility of them speaking to current students.

The School of Computer Information Systems is committed to leveraging all possible resources to provide students with the most current software available to help prepare students for careers in industry.

Recently examples of this commitment include summer 2010 upgrades to Windows 7 operating system on lab computers, upgrading Visual Studio from 2005 to 2008, and upgrading SQL Server from 2005 to 2008.

The presence of an active student organization for CIS majors to network, build relationships, and share experiences is definitely a strength of the program.

In March 2001, the Division of CIS faculty voted to create a student organization for its majors and minors. It was approved by a majority vote in September 2001 by the UAM Faculty Assembly and immediately began accepting members.

The name 'Chi Iota Sigma' represents the three important qualities that our members display. Chi represents 'character.' Members should demonstrate moral and ethical integrity in all situations. Iota represents 'Initiative.' Members should take action with enterprise and determination when or where they see a need. Sigma represents Strength. Members should maintain a firmness of will and purpose even when that is not the popular choice.

The overall concept of the club is to further involve students in their education. Speakers (and former students) from across the state have been brought in to speak about career opportunities, resume writing, and interviewing; and members have visited several corporate IT 'shops' to better understand the world of computers. Students are also encouraged to participate in school-sponsored events. Since its inception, the club participated in intramural activities for several years: bowling, softball, and volleyball. They have also chosen to participate in the annual Spirit Wall decorating competition each homecoming week and the annual pumpkin-painting contest. Working as a team outside the classroom further develops a sense of camaraderie and strengthens team-working abilities among participating members.

Advisors have also encouraged students to give back to their communities through events such as Drew County Relay for Life, Angel Tree program, Thanksgiving and Easter collection of canned food benefitting area food pantries, collection of warm coats for kids, and collection for victims of Hurricane Katrina (sponsored by the Monticello-Drew County Chamber of Commerce).

Students are not expected to just give of their time; they receive benefits. One such benefit is the bi-annual book stipend give-away. Five one-hundred-dollar book stipends are given to members in good standing with a 2.5 GPA. Winners are drawn randomly. This rewards students who may not be at the top of their class but are trying to better themselves.

Some of the opportunities that club members have experienced include the list of speakers and IT facility tours listed below:

Speakers from the following companies:
Monticello School District
Jefferson Regional Medical Center
Dillard's
Acxiom
Simmons Bank
Wal-Mart
Entergy
Hewlett Packard

Tours:
Dillard's
Acxiom
Windstream
Entergy

Jefferson Regional Medical Center
Potlatch

Employment opportunities are still ample in the field of Information Technology for qualified candidates. As a field, CIS continues to exhibit strong job growth, salaries are very competitive to other fields, and the field offers other advantages such as the possibility of being able to work from home, flexible hours, and opportunities to continue to learn new technology which enhances the profile of the employee.

2. List the areas of the program most in need of improvement.

There are also several challenges the program faces. Faculty has limited time and resources for pursuing academic achievements through research, publications, or grant funding due to course loads. The two principal computer labs (BBC 102 and BBC 122) receive new computers every four years, but the remaining two labs, and the small web lab, the CIS 1193 PC Hardware and Software Maintenance Lab and CIS 4503 Business Data Communications labs, as well as the web lab, have very old hardware that needs to be replaced. As a school opportunities for growth are limited by faculty constraints and lack of additional classroom/lab space. Many students lack requisite math and reasoning skills and begin their college careers in remedial coursework. Closely related to the issue of students is a decline in the overall number of CIS majors, which correlates with the implementation of course prerequisites that students pass general education mathematics before moving into CIS core classes.

Faculty time is primarily dedicated to teaching, advising, and university service. This makes it difficult for faculty to devote additional time to academic research, attempting to have material published, or developing grant proposals. Student and alumni feedback has shown a need to develop new courses in areas such as .NET, Linux/Unix, and Oracle, but to add these courses would require new funding for software, likely hardware needs, and elimination of existing courses to free up instructors to teach them. The recent downturn in CIS majors makes it more unlikely that an increase in CIS faculty is forthcoming.

In addition to faculty constraints on developing additional classes, another constraint is having actual computer lab time available. Currently, the two principal labs are both occupied by classes until 2 PM on Monday/Wednesday/Friday and 1:30 PM on Tuesday/Thursday. Getting students to attend classes later in the day than that can conflict with job/family responsibilities, thus, running into the same issue as faculty constraints.

As previously stated, the two principal computer labs are on a four year replacement rotation, and are kept up to current standards. The three smaller specialized labs have outdated hardware and need to be replaced. Since these labs are principally used for 1-2

courses per semester each, they have not received the priority that the other labs have. When one of the current primary labs receives new hardware then the existing hardware can be re-dispatched to these labs to update them; this would be an improvement over their existing computers.

Due to UAM's mission and status as an open-enrollment university, 64% of our incoming freshmen require remediation. As a major, CIS requires logic and reasoning skills that relate to experience in mathematics. Thus the School strengthened it's prerequisites in mathematics before entering CIS core coursework. Historically students who struggle in mathematics tend to struggle with the logic and reasoning skills essential to being strong CIS students. This prerequisite establishment has decreased the overall number of CIS majors, but it is the School's belief that it puts the students who do get through the prerequisites in a better position to succeed.

3. List program improvements accomplished over the past two years.

Continuous improvement is a goal of the CIS program. Steps in the past two years toward this goal include the following: a revamping of the CIS curriculum that went into effect in August of 2010, several software upgrades to ensure students were able to work on the most current technology possible, the purchase and installation of a new SQL server, the purchase of a wireless router to begin the process of utilizing wireless technology in CIS courses, and the installation of smart rooms in class facilities to enhance teaching presentation.

The changes to the CIS curriculum began in an August 2009 faculty meeting where faculty were encouraged to discuss ideas to address change they felt was needed in the existing curriculum. As part of these changes, the CIS 1013 Introduction to Computer-Based Systems class was modified from a strictly lecture-based class to adding a laboratory component learning beginning MS Word, Windows, Internet, email, Blackboard, and use of UAM library software. The course was modified in an effort to better prepare UAM freshmen to excel as students. Prior to the changes, many UAM freshmen were enrolling in the CIS 2223 Microcomputer Applications course, and many of these freshmen were struggling with the pace and content of this sophomore-level course. In an effort to address this issue but still allow advanced students to take the course, prerequisites were established of concurrent enrollment in Intermediate Algebra and Freshmen Composition. This necessitates students have finished remediation in English coursework, and have either completed Introduction to Algebra or have high enough placement scores to move directly into Intermediate Algebra. Our CIS 1193 PC Hardware and Software Maintenance class was renumbered (from CIS 2193) to reflect its freshman status as the first required class for CIS majors.

To help ensure students have developed some degree of logic and reasoning skills through their mathematics coursework, another change was implemented to require at least concurrent enrollment in General Education Mathematics for students enrolled in CIS 2203 Programming Logic and Design, and completion of General Education Mathematics before taking CIS 3423 COBOL and CIS 3443 Object-Oriented Programming Languages. By establishing this mathematics prerequisite on CIS 3423 COBOL and CIS 3443 Object-Oriented Programming Languages, it was necessary to remove the prerequisite on the next course in the CIS sequence, CIS 3523 Structured Systems Analysis and Design. The final curriculum change was established a prerequisite of CIS 2223 Microcomputer Applications on the CIS 3453 World Wide Web Programming class to ensure that students had basic computer skills needed before they enrolled in the course.

A growing trend in education is to view the instructor as both a teacher and a facilitator of student learning through student interaction and experiences. CIS 2223 Microcomputer Applications is a class used by many students as a general education course or as a requirement for their major. The course teaches a PC operating system in addition to the basics of the Internet, email, file management, word processing, spreadsheets, and presentations. Many of the textbooks for this type of course, including the one used at UAM, utilize a disciplined process of presenting the software features. In some sections of this course, the student reads about a feature then the text directs them in exactly what to do; everywhere the student is to click and whatever the student is to type is presented in detail. While this process is an excellent way for students to learn a new feature, it limits the “real life” aspect of using the software. For that reason, CIS 2223 Microcomputer Application students are asked to demonstrate their software application knowledge by completing both the step-by-step exercise and a project of their own selection.

Students select their own project topic and are advised to make it something in which they have an interest since the project will last the entire semester. The project can be anything from deciding which cell phone to purchase to a spring break trip they are planning. Students can also use a research assignment from another course. While students are able to select their own project topic, the instructor provides the software features to be demonstrated. In the file management section, students devise a folder hierarchy and create folders for all their classes. One of the Internet objectives is to teach students how to search the Internet and evaluate the search results. They find “good” sites related to their topic and save this information. During the word processing application, an outline is developed, a paper with citations is written, a bibliography is compiled, a table of contents is generated, and a cover page is made. In the spreadsheet section, students create spreadsheets and charts related to their project along with sheets calculating class averages and GPA’s. During the presentations section, the students learn how to create a

presentation in addition to the basics on how to actually give a presentation. Students then present their project to the class using the presentation software.

Using this project exercise reinforces the concepts presented by the text. In addition, it shows the students why it is important to learn the software and how they can use the software to be successful in their college and professional careers.

As part of the School's commitment to provide students with the most current technology possible, several software upgrades have been implemented in the past two years. In the summer of 2010, Windows 7 operating system, Visual Studio 2008, and SQL Server Client 2008 were installed on lab computers. The School also purchased and installed a new SQL Server with SQL Server 2008 installed upon it.

The School also purchased a wireless router to begin select implementation of wireless technology into courses. Many of today's technologically advanced students have "smart phones" capable of accessing a wide variety of information via the Internet. Rather than ignore this technology, the School hopes to develop ways to harness it in a positive fashion, and teach students ways to utilize these powerful tools to further their careers.

4. Describe planned program improvements, including a timetable and the estimated costs. Identify program improvement priorities.

   As an academic unit, the School of Computer Information Systems has several planned program improvements on the immediate horizon.

   The School should do a better job promoting CIS as a minor, the CIS advanced certificate program, and CIS areas of emphasis to General Studies majors. Those students who are seeking non-CIS careers can still differentiate themselves in their job search by having experience and skills in CIS. Costs should be minimal, likely using fliers, information emails, and a presentation session to publicize the benefits of joining CIS programs.

   Scheduling visits to area high schools and junior colleges this fall to develop relationships with their instructors and help recruit potential students is also on the agenda. Costs again should be minimal, but should result in additional students coming into the program. Along this same line of thinking, the School of Computer Information Systems is discussing the possibility with area schools of setting up workshops where grade school students could come on campus for a workshop or learning activity. Volunteers from Chi Iota Sigma would volunteer to assist the students. This benefits both the grade school students and CIS majors in different ways. For the grade school students, the thought of coming to a college is exciting, and can help inspire them to be more serious about their academics and help them think about the direction of their own future. For CIS majors, not only is this an

excellent community service opportunity, it teaches them patience and how to assist those in need, skills that will benefit them in user support in their job roles. This initiative can only help improve recruiting, the profile of the School, and community standing.

Students have requested development of a Linux/Unix class. Cost of this course is still to be determined, but faculty knowledge is in place, and Linux software licenses are available at minimal cost. Tentative timeline to consider this as a new seminar course would be fall 2011.

Each year, multiple students express interest in graduate school, but are not sure how to actually get the process started. So beginning in 2011, the School of Computer Information Systems will provide a presentation on several graduate school options, the application process, and qualifying exam scores needed for admission.

As part of the regular four-year cycle of computer lab upgrades, the BBC 102 Computer Lab will be replaced in summer 2011. This is very important to help keep students supplied with current technology for instruction. Initial cost estimate is $50,000.

Also scheduled for the summer of 2011 is the upgrading of the Microsoft Office Suite from the 2007 version to the 2010 version. Cost associated with this upgrade will be very limited, just memory upgrades if required. Maximum cost to the school should be $1,000.

The School of Computer Information Systems will be forming an Advisory Committee in 2011. Tentative plans call for a committee composed of three UAM Computer Information Systems alumni, three local industry representatives, and two current members of the faculty. Meetings will be scheduled twice a year, in the fall and spring semesters, and will focus on seeking input on the direction of the program and aligning it with the needs of employers and the community itself.

The School of Computer Information Systems will also begin planning selective implementation of wireless connectivity involving smartphones and exploration of the using of social media to enhance instruction.

The School of Computer Information Systems will also begin looking for ways to maintain better current data on graduates, including more actively seeking out job placement data by getting contact information from graduating seniors. Current procedures provide some of this information, but a more aggressive approach is needed.

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