

**CIS  
Bachelor of Science  
Computer Information Systems  
&  
Associate of Applied Science  
Computer Information Systems**

**Academic Program Review  
2010-2011**

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## SECTION 1

### PROGRAM OVERVIEW

**Section 1:** An overview of the program that addresses broadly the areas of the program included in the Administrative Program Review document. This section should acquaint the reader with the program: mission, history, impact (on the University, state, and nation), expectations, plans for improvement, and any other items that would help the reader fully appreciate the remainder of the report.

#### A. PROGRAM GOALS.

##### 1) State the goals of the program.

The mission of the CIS department at Ferris State University is to provide an outstanding, flexible, supportive learning environment for students preparing for careers in information technology services. The goals of the CIS program are to provide a solid foundation in:

- Analytical and critical thinking skills  
(Organizational problem solving; ethics and professionalism; creativity);
- Business fundamentals  
(Business models; functional business areas; evaluation of business performance);
- Interpersonal, communication and team skills  
(Interpersonal relationships; team work; leadership; communication);
- Technology  
(Application development; internet systems architecture and development; database design and administration; systems infrastructure and integration);
- Information systems and technology-enabled business development  
(Systems analysis and design; business process design; systems implementation; IS project management).

##### 2) Explain how and by whom the goals were established.

The program goals were established by the CIS Faculty and the curriculum was reengineered in 2004. It was updated and revised several times since then. The CIS program faculty meets regularly in department and program meetings to engage in a process of continuous quality improvement.

##### 3) How do the goals apply to preparing students for careers in and meeting employer needs in the community/region/marketplace?

The CIS program curriculum is updated on a regular basis to reflect the needs of employers throughout Michigan as well as nationally. The CIS program meets with the CIS Advisory Board annually to determine the skills that are needed for a successful career upon graduation. The CIS program also examines national and regional trends in the industry and updates its curriculum to reflect those changes.

##### 4) Have the goals changed since the last program review? If so, why and how? If not, why not?

Since the last Academic Program Review, the CIS program has reviewed its curriculum to reflect a movement toward online and web based system development. Specifically, we have added ISYS 288 and ISYS 489 to reflect the increasing importance of internet based computing. Since the last APR, all students have been required to take at least one internship prior to graduation.

- 5) Describe the relationship of the program goals to the University's mission, and the departmental, college and divisional strategic plans.

Ferris State University's mission statement is:

"Ferris State University will be a national leader in providing opportunities for innovative teaching and learning in career-oriented, technological and professional education."

The Ferris vision is to be a national leader in career-oriented and professional education, and the CIS program's alignment to a national model (and subsequent national assessment) fulfills that mission. It also meets goals 1 & 2 for the College of Business. Lastly, it meets departmental goals of providing current and relevant skills for the market place.

#### B. PROGRAM VISIBILITY AND DISTINCTIVENESS

- 1) Describe any unique features or components of the program.

The CIS program has the following unique features:

- An internship is required of all CIS students. Students are encouraged to undertake multiple internships if possible in order to provide them with maximal experience and networking opportunities.
- The CIS program at FSU places a strong emphasis on hands-on training. Virtually every CIS class requires hands-on assignment, projects and presentations.
- The CIS program requires multiple courses in systems analysis design and implementation.
- The CIS program maintains an active relationship with the CIS Advisory Board. In addition to meeting with the Advisory Board on an annual basis, we request written feedback from employers that evaluate the performance of our students.

- 2) Describe and assess the program's ability to attract quality students.

After an extended period of enrollment declines, the FSU CIS program has successfully began to reverse that trend. The number of students entering the CIS program has started to increase. In order to attract students we have done the following:

- In 2010, the CIS program faculty committee revised the program brochures to reflect changes in our program.

- We have enhanced our presence on the Internet.
- We actively maintain relationships with community colleges and career tech centers.
- The CIS program has developed a new degree that will facilitate the transfer of students from community colleges to FSU.
- The CIS program has successfully conducted computer camps to familiarize potential students with FSU in general and the CIS field in particular.
- The CIS program meets regularly with peer institutions to discuss and promote its program. The Great Lakes CIS Leaders Conference was hosted by the FSU CIS program in May, 2011.

- 3) Identify the institutions that are the main competitors for prospective students in this program.
- a) How are these programs similar and different from the FSU program?

Our primary competitors at the bachelor's degree level are Central Michigan University, Grand Valley State University, Eastern Michigan University, Western Michigan University, Oakland University, Wayne State University, Northern Michigan University, Saginaw Valley State University, Lake Superior State University, Community Colleges offer some introductory courses at lower tuition rates, and this affects our enrollment at the associate degree level. However, with the new Computer Information Technology degree, we hope that streamlined articulation agreements will encourage students to enroll at FSU to obtain their bachelor's degree.

Similarities:

- Many of the programs at competitor institutions are based in Colleges of Business.
- Most of the Colleges of Business are accredited by either the ACBSP or AACSB. (The College of Business at FSU is accredited by the ACBSP).

Differences:

- Unlike some institutions which have developed their entire CIS curricular around a single vendor (such as SAP), FSU offers training in multiple vendor environments (including Microsoft, IBM, Oracle, Google, and others).
- FSU has a much greater hands-on emphasis than many of its peer institutions.

- b) What can be learned from them that would improve the program at Ferris?

We have learned that the CIS program has a distinctive advantage over its competitors by focusing on hands-on classes rather than theory courses, small class size rather than large lecture halls, and by maintaining close contacts with businesses throughout the Midwest.

Although the CIS program had experienced a drop in enrollment in the previous program review period, the drop in enrollment at similar institutions had been even greater. One competing institution, Northern Michigan University, is in the process of dismantling their program because of very low enrollment.

With regard to “what other institutions are doing better,” we’ve observed that other institutions that have their CIS programs based in a college of business often require their students to complete all their general education courses during their freshman and sophomore years. Students are then admitted to the CIS major. Although this practice results in much higher quality CIS majors, Ferris does not have a large enough of an enrollment in CIS to follow this process. Similarly, many other institutions have more rigorous entrance requirements which results in higher retention and student satisfaction levels.

### C. PROGRAM RELEVANCE.

- 1) Provide a labor market demand analysis: This activity is designed to assess the marketability of future graduates. Reports from the Department of Labor and from industry are excellent sources for forecasting demand on graduates. Request information from your Library Liaison.

#### 1. Overall

According to the Occupational Outlook Handbook, 2010-2011 Edition, US Department of Labor, Bureau of Labor Statistics, overall employment of computer network, systems, and database administrators is projected to increase by 30 percent from 2008 to 2018, much faster than the average for all occupations. In addition, this occupation will add 286,600 new jobs over that period. Growth, however, will vary by specialty.

Specifically, growth in computer network, systems, and database administrators will be rapid in the computer systems design, data processing and hosting, software publishing, and technical consulting industries, as these types of establishments utilize or provide an increasing array of IT services. Growth will also be rapid in healthcare, as these organizations look to increase their efficiency and improve patient care through the use of information systems and other technology.

However, the IT industry was caught in the midst of the late 2000s recession. The IT industry shed employees in 2009-2010 at a much faster pace than they are hiring them in 2010, but at least the industry is hiring.

The employment hole that the tech industry created during the recession of 2008-2009 is deep. Since January 2009, tech companies have shed 215,000 jobs, says TechAmerica Foundation, an industry group. In its 2010 analysis, Foote Associates, a workforce analyst firm, counted a net gain of 9,600 in IT-related jobs, mostly in U.S. Labor Dept. categories of management and technical consulting services and computer system design and related services.

In addition, the 2008-09 recession reduced wages in Silicon Valley last year by about 10%. The average salary of a Silicon Valley tech worker was \$132,500 in 2009, down about \$15,000 from 2008, according to [TechAmerica's annual Cybercities report](#).

#### 2. Labor Market Demand in Health Care Industry:

Hospitals and physicians face a mandate to switch to electronic medical records by 2014. The Recovery Act provided \$49 billion to help health care organizations meet that deadline, and the investment has spurred industry growth in the Electronic Medical Records fields. The industry

is growing so quickly that it is expected there will be a shortfall of 50,000 health IT workers in the next five years, **reports Wanted Analytics**.

In 2009, the health information technology sector experienced 11 percent growth in 2009, outpacing all other segments of the health care market, according to Scientia Advisors of Cambridge, Massachusetts.

### 3. Summary

CIS majors will hold the 3 of the top 8 growth jobs over the next 8 years according to Bureau of Labor Statistics.

- CIS majors will enter careers with strong salaries (**careers in information systems** and **Hot CIS Jobs**)
- CIS majors have leading edge tools and techniques in their grasp (**MSDNAA**, Rational Suite Enterprise, IBM products, and Oracle).

### 4. Web References

Occupational Outlook Handbook, 2010-2011 Edition:

<http://www.bls.gov/oco/ocos287.htm>.

Georgia State University:

<http://www2.cis.gsu.edu/cis/about/career.asp>

Computer World: [http://www.computerworld.com/s/article/107290/Skills\\_Scope?taxonomyId=010](http://www.computerworld.com/s/article/107290/Skills_Scope?taxonomyId=010)

[http://www.computerworld.com/s/article/9204398/IT\\_hiring\\_shows\\_gains\\_but\\_jobs\\_may\\_be\\_shifting](http://www.computerworld.com/s/article/9204398/IT_hiring_shows_gains_but_jobs_may_be_shifting)

[http://www.computerworld.com/s/article/9200542/Recession\\_hit\\_IT\\_wages\\_across\\_U.S.](http://www.computerworld.com/s/article/9200542/Recession_hit_IT_wages_across_U.S.)

[http://www.mlive.com/jobs/index.ssf/2010/12/shortfall\\_of\\_health\\_information\\_technolo.html](http://www.mlive.com/jobs/index.ssf/2010/12/shortfall_of_health_information_technolo.html)

- 2) Describe and assess how the program responds to emerging issues in the discipline, changes in the labor force, changes in employer needs, changes in student needs, and other forces of change.

The CIS program instructors remain at the leading edge of technology by attending and participating in conferences, seminars, training sessions and through active membership in professional organizations such as the Association for Information Technology Professionals (AITP). We collaborate with peer institutions throughout Michigan and the Midwest. We use data from employers, the U.S. Bureau of Labor Statistics, and industry publications to assist us in meeting labor and student needs.

In order to respond to the rapidly changing needs of industry we have done the following:

- We meet annually with the CIS Advisory Board. The Board members consist of companies that typically employ our students - - either in internships or in full time permanent positions after graduation. In this way, we are able to fine tune our curriculum in a way that reflects the needs of the most likely employers.
  - The advisory board reviews our current curriculum, proposed changes and suggestions for new directions.
  - The CIS program curriculum committee meets on a regular basis to continuously review courses, software, and textbooks to ensure labor market currency.
  - The CIS program is currently considering the adoption of ACM-AIS 2010 model curriculum.
- 3) Assess why students come to FSU for the program. Summarize the results of the graduate exit survey and the student program evaluation.
- a) How well does the program meet student expectations?

When graduating seniors were surveyed, most indicated that they were satisfied with the CIS program. Long after they completed our program, CIS graduates continued to benefit from our program after they had gained several years of experience through numerous promotions and substantial salary increases. Approximately 30% of our graduates had tripled their salaries in the years since graduation (see Appendix A).

- b) How is student sentiment measured?

Student sentiment is measured formally through the S.A.I. (Student Assessment of Instruction), and program surveys. The CIS program also receiving informal feedback on student sentiment through participation in the student chapter of the Association of Information Technology Professionals (A.I.T.P.).

D. PROGRAM VALUE. Please refer to the faculty survey.

- 1) Describe the benefit of the program, facilities, and personnel to the University.

The CIS program is an important resource for its students as well for the university as a whole. Approximately 80% of the course load for the CIS program is made up of service courses for other departments. We teach ISYS 321 (Management Information Systems) as part of the business core. Furthermore, we require all CIS majors to complete all the non-CIS courses in the College of Business Core, and CIS faculty participate actively in the Business core curriculum committee. Outside the College of Business, the CIS program supports many departments across campus. For example, the introduction to Database Systems (ISYS 200) course provides training for the radiology, pre-pharmacy, health information systems, and nursing programs. Visual BASIC (ISYS 204) provides training for students ranging from computer science to digital media majors. ISYS 305 is used to support training for students enrolled in the Professional Golf Management, Professional Tennis Management, and Small Business Management Programs. ISYS 307 Microsoft Network Administration provides training for students in the Digital Media and Information Security and Intelligence Programs.



Finally, ISYS 105 Microcomputer Applications provides a fundamental background in word processing, spreadsheets, and presentation software to hundreds of students all across the university. The computer lab facilities are available to the entire university community in the evening and on weekends.

- 2) Describe the benefit of the program facilities, and personnel to the students enrolled in the program.

The CIS program provides valuable training to its students, which is both current and flexible. The program faculty work hard to design courses that reflect current technologies needs of employers while providing a fundamental basis for preparing students to continue to learn independently after they graduate from Ferris. This goal is achieved by carefully balancing technologies that are in demand today with long term skills such as systems analysis and project management.

Faculty participate in professional organization and conferences to keep pace with technological advances, however, funding limitations have reduced the opportunities for these activities. Although the university provides copies of software that is currently in use in the classroom, faculty who wish to explore new software or hardware must do so at their own expense.

Students who are enrolled in CIS courses are provided with all the software, hardware, and internet connectivity needed to complete their assignments and projects in class. Virtually all CIS classrooms are fully equipped so that students may obtain hands-on experience in the topics discussed shortly after the lecture.

This is particularly important in a university which values diversity of opportunities for its students. By having all the hardware, software, and internet access available in the classrooms and labs, the CIS program is accessible to students in a wide stratum of economic groups.

- 3) What is the assessment of program personnel of the value of the program to employers? Explain how is this value is determined.

The CIS faculty members are proud of their program and the continued success of their graduates. Students who graduate from our program tend to receive job offers at major corporations with excellent prospects from future advancement and substantial pay raises. This is quite an accomplishment in the current prolonged recession period in a state which has been afflicted with one the highest unemployment rates in the nation. We base these conclusions on alumni surveys, CIS Advisory Board surveys, and informal feedback from the CIS Advisory Board during the annual board meeting.

- 4) Describe the benefit of the program, faculty, staff and facilities to entities external to the University (services that faculty have provided to accreditation bodies, and regional, state, and national professional associations; manuscript reviewing; service on editorial boards; use of facilities for meetings, etc.).

CIS faculty members have worked extensively to develop variables in TracDat (a software assessment system) which would provide feedback that would facilitate continuous improvement in the effectiveness of our instruction.

In 2010-2011, faculties have actively supported activities which resulted in re-accreditation by the Higher Learning Commission. We are also preparing material for the ACBSP accreditation team visit next year. Several faculty belong to relevant professional organizations and have participated in conferences, served as reviewers for books, articles and conferences. In addition, the CIS program recently (May, 2011) hosted a conference for the Great Lakes CIS Leaders Association.

- 5) What services for extra-University general public groups (e.g., presentations in schools or to community organizations) have faculty, staff or students provided? Describe how these services benefit students, program, and community.
- CIS faculty and administrators continue to work with community colleges and tech centers throughout Michigan in order to enhance institutional cooperation and to attract students to our program. The CIS program has successfully offered summer computer camp for high school students.
  - The CIS and CIT coordinator has travelled to community colleges throughout the state to enhance articulation agreements which simplifies the transfer process for students who wish to complete their bachelor's degree at FSU.
  - CIS faculty and administrator have made presentations to local civic organizations to enhance the visibility of our program.
  - CIS faculty have participated in "DAWG DAYS" the promote community awareness of our program and to recruit potential students.

## SECTION 2

### COLLECTION OF PERCEPTIONS

**Section 2:** Collection of Perceptions. The survey sections must include, among others, a discussion of techniques used in collecting the information, difficulties encountered during the surveying process, number and percent of respondents, and analysis of data in accordance with established methodologies. The survey instruments must be designed and distributed, in consultation with Institutional Research and Testing, to reflect general aspects of program review as well as the specific nature of the program itself. **All comments should be included, but the names of individuals mentioned should be deleted.**

- A. **Graduate follow-up survey:** The purpose of this activity is to learn from the graduates their perceptions and experiences regarding employment based on program outcomes. The goal is to assess the effectiveness of the program in terms of job placement and preparedness of the graduate for the marketplace. A mailed or e-mailed questionnaire is most preferred; however, under certain conditions telephone or personal interviews can be used to gather the data.
- B. **Employer follow-up survey:** This activity is intended to aid in assessing the employers' experiences with graduates and their perceptions of the program itself. A mailed or e-mailed instrument should be used to conduct the survey; however, if justified, telephone or personal interviews may be used to gather the data.
- C. **Graduating student exit survey:** Graduating students are surveyed every year on an ongoing basis to obtain information regarding quality of instruction, relevance of courses, and satisfaction with program outcomes based on their own expectations. The survey must seek student suggestions on ways to improve the effectiveness of the program and to enhance the fulfillment of their expectations. This survey is mandatory for all program graduates.
- D. **Student program evaluation:** Current students are surveyed to obtain information regarding quality of instruction, relevance of courses, and satisfaction with program outcomes based on their own expectations. The survey must seek student suggestions on ways to improve the effectiveness of the program and to enhance the fulfillment of their expectations. This survey should be conducted during the year before the PRP report is submitted.
- E. **Faculty perceptions:** The purpose of this activity is to assess faculty perceptions regarding the following aspects of the program: curriculum, resources, admissions standards, degree of commitment by the administration, processes and procedures used, and their overall feelings. Additional items that may be unique to the program can be incorporated in this survey.
- F. **Advisory committee perceptions:** The purpose of this survey is to obtain information from the members of the program advisory committee regarding the curriculum, outcomes, facilities, equipment, graduates, micro- and megatrends that might affect job placement (both positively and adversely), and other relevant information. Recommendations for improvement must be sought from this group. In the event that a program does not have an advisory committee, a group of individuals may be identified to serve in that capacity on a temporary basis.

## Section 2A

### Graduated Student (Alumni) Survey

The alumni survey was sent to 1207 graduates of the FSU CIS program. Of the 1207 surveys sent, 525 were undeliverable and 120 responded, yielding an 18% response rate (120/(1207-525)). The alumni list was provided by the University Advancement and Marketing department.

Alumni were asked to respond to the following areas:

- 1) technical skills currently needed and future trends
- 2) business skills currently needed and future trends
- 3) how well did FSU prepare their technical skills
- 4) how well did FSU prepare their business skills

The technical skills area was subdivided into 1) productivity tools, 2) programming skills, 3) database skills, 4) system analysis and design, and 5) project management skills.

#### Technical skills currently needed and future trends

Within productivity skills, 98% of the alumni felt word processing skills are important or very important, followed by spreadsheet skills, desktop database skills (96.5%) and presentation software skills (96%).

Within the programming area, the respondents felt that Java and JavaScript was important or very important (90%), followed by HTML (90%), and XML (85%).

Within the database area, 97% of alumni respondents felt that SQL was important or very important, followed by SQL Server (94%), Oracle (88%) and DB (71%).

Within Systems Analysis and Design, 93% of the respondents felt that database design were important or very important, and far below that, Rational tools (67%), IDE (65%), and finally UML (60%).

Within the project management area, 92% of the respondents felt that quality management was important or very important, followed by knowledge management (89%) integrated management (76%) and business intelligence (74%).

#### Business Skills currently needed

Within the general business skills area, 96% of the respondents felt that management was important or very important followed by finance (85%), statistics (83%), and marketing (78%).

Within the soft skills area, 99% of the respondents felt that the ability to adapt and presentation skills (99.2%) were somewhat important or very important, followed by leadership (98%), oral communication skills (98%), and writing skills (92%) and finally ethics (87%).

How well did FSU prepare you for the skills discussed above?

Within productivity skills, 91% of alumni respondents felt somewhat or very prepared in desktop database use, followed by word processing (74%), presentation skills (67%), and spreadsheets (66%).

Within programming skills, 83% of the alumni respondents felt somewhat or very prepared in COBOL, followed by PHP (41%), Visual BASIC (31%), and finally, Java (20%).

Within the database skills area, 60% felt somewhat or very prepared in SQL, followed by DB2 (38%), SQL Server (30%) and Oracle (16%).

Within the systems and analysis and design area, alumni respondents felt most strongly prepared in DB2 with 85% stating that they were somewhat or very prepared, followed by IDE (25%), and Rational Tools (24%). Only 14% felt they were prepared in UML.

Within general business skills, the respondents were similarly prepared in quality management followed by business intelligence (67%), integration management (66%) and knowledge management (65%).

With regard to other business areas taught at the FSU College of Business, 95% of the alumni felt somewhat or very prepared in accounting (95%), followed by finance 93%, management (92%), statistics (87%), marketing (83%), and business law (81%).

In the soft skills area, the highest area of preparation was oral communication (94%) followed by ability to adapt, presentation skills (92%), writing skills (91%), leadership (88%) and ethics (85%).

Most of the alumni were male 74% (26% female), most had 5 or more years of experience. Surprisingly, the largest single employment category was application programmer or systems programmer (19.5%), followed by IT management (17.7%). While 89% of the alumni reportedly earned less than \$40,000 when they were first hired, 31.2% report a salary of over \$100,000. This suggests that CIS graduates have strong career opportunities after graduation. In addition, 44.7% reported 5 or more promotions.

Related tables are shown below. A comprehensive list appears in Appendix A.

### Desirable skills and trends

Please rate the importance of each of the following *General PC Skills* for new CIS professionals.

		Word processing			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	2	1.7	1.7	1.7
	Somewhat Important	33	28.0	28.0	29.7
	Very Important	82	69.5	69.5	99.2
	No Opinion	1	.8	.8	100.0
	Total	118	100.0	100.0	

**Spreadsheet skills**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	2	1.7	1.7	1.7
	Somewhat Important	28	23.7	23.7	25.4
	Very Important	86	72.9	72.9	98.3
	No Opinion	2	1.7	1.7	100.0
	Total	118	100.0	100.0	

**Presentation tools**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	3	2.5	2.5	2.5
	Somewhat Important	29	24.6	24.6	27.1
	Very Important	84	71.2	71.2	98.3
	No Opinion	2	1.7	1.7	100.0
	Total	118	100.0	100.0	

**Desktop Databases**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	1	.8	.9	.9
	Somewhat Important	28	23.7	23.9	24.8
	Very Important	85	72.0	72.6	97.4
	No Opinion	3	2.5	2.6	100.0
	Total	117	99.2	100.0	
Missing	System	1	.8		
Total		118	100.0		

**Please rate the importance of each of the following Programming Skills for new CIS professionals.**

**ASP**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	7	5.9	6.2	6.2
	Somewhat Important	44	37.3	38.9	45.1
	Very Important	30	25.4	26.5	71.7
	No Opinion	32	27.1	28.3	100.0
	Total	113	95.8	100.0	
Missing	System	5	4.2		
Total		118	100.0		

**C++**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	8	6.8	7.1	7.1
	Somewhat Important	50	42.4	44.2	51.3
	Very Important	31	26.3	27.4	78.8
	No Opinion	24	20.3	21.2	100.0
	Total	113	95.8	100.0	
Missing	System	5	4.2		
Total		118	100.0		

**C#**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	6	5.1	5.4	5.4
	Somewhat Important	43	36.4	38.7	44.1
	Very Important	30	25.4	27.0	71.2
	No Opinion	32	27.1	28.8	100.0
	Total	111	94.1	100.0	
Missing	System	7	5.9		
Total		118	100.0		

**COBOL**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	48	40.7	42.1	42.1
	Somewhat Important	35	29.7	30.7	72.8
	Very Important	16	13.6	14.0	86.8
	No Opinion	15	12.7	13.2	100.0
	Total	114	96.6	100.0	
Missing	System	4	3.4		
Total		118	100.0		



**HTML**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	1	.8	.9	.9
	Somewhat Important	40	33.9	35.4	36.3
	Very Important	62	52.5	54.9	91.2
	No Opinion	10	8.5	8.8	100.0
	Total	113	95.8	100.0	
Missing	System	5	4.2		
Total		118	100.0		

**Java**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	1	.8	.9	.9
	Somewhat Important	35	29.7	29.9	30.8
	Very Important	70	59.3	59.8	90.6
	No Opinion	11	9.3	9.4	100.0
	Total	117	99.2	100.0	
Missing	System	1	.8		
Total		118	100.0		

**JavaScript**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	1	.8	.8	.8
	Somewhat Important	37	31.4	31.4	32.2
	Very Important	69	58.5	58.5	90.7
	No Opinion	11	9.3	9.3	100.0
	Total	118	100.0	100.0	

**PHP**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	5	4.2	4.5	4.5
	Somewhat Important	43	36.4	38.7	43.2
	Very Important	33	28.0	29.7	73.0
	No Opinion	30	25.4	27.0	100.0
	Total	111	94.1	100.0	
Missing	System	7	5.9		
Total		118	100.0		

**Visual BASIC**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	11	9.3	9.7	9.7
	Somewhat Important	57	48.3	50.4	60.2
	Very Important	29	24.6	25.7	85.8
	No Opinion	16	13.6	14.2	100.0
	Total	113	95.8	100.0	
Missing	System	5	4.2		
Total		118	100.0		

**XML**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	1	.8	.9	.9
	Somewhat Important	33	28.0	29.2	30.1
	Very Important	63	53.4	55.8	85.8
	No Opinion	16	13.6	14.2	100.0
	Total	113	95.8	100.0	
Missing	System	5	4.2		
Total		118	100.0		

Please rate the importance of each of the following *Database Skills* for new CIS professionals.

**DB2**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	13	11.0	11.4	11.4
	Somewhat Important	56	47.5	49.1	60.5
	Very Important	25	21.2	21.9	82.5
	No Opinion	20	16.9	17.5	100.0
	Total	114	96.6	100.0	
Missing	System	4	3.4		
Total		118	100.0		

**Oracle**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	5	4.2	4.3	4.3
	Somewhat Important	36	30.5	31.0	35.3
	Very Important	66	55.9	56.9	92.2
	No Opinion	9	7.6	7.8	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**SQL**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Important	24	20.3	20.7	20.7
	Very Important	88	74.6	75.9	96.6
	No Opinion	4	3.4	3.4	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**SQL Server**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	1	.8	.9	.9
	Somewhat Important	32	27.1	27.8	28.7
	Very Important	76	64.4	66.1	94.8
	No Opinion	6	5.1	5.2	100.0
	Total	115	97.5	100.0	
Missing	System	3	2.5		
Total		118	100.0		

**Please rate the importance of each of the following *System Analysis and Design Skills* for new CIS professionals.**

**Database design**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	2	1.7	1.7	1.7
	Somewhat Important	31	26.3	26.7	28.4
	Very Important	77	65.3	66.4	94.8
	No Opinion	6	5.1	5.2	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**IDE**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	7	5.9	6.0	6.0
	Somewhat Important	43	36.4	37.1	43.1
	Very Important	32	27.1	27.6	70.7
	No Opinion	34	28.8	29.3	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Rational Tools**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	10	8.5	8.6	8.6
	Somewhat Important	46	39.0	39.7	48.3
	Very Important	32	27.1	27.6	75.9
	No Opinion	28	23.7	24.1	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**UML**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	6	5.1	5.4	5.4
	Somewhat Important	46	39.0	41.4	46.8
	Very Important	21	17.8	18.9	65.8
	No Opinion	38	32.2	34.2	100.0
	Total	111	94.1	100.0	
Missing	System	7	5.9		
Total		118	100.0		

Please rate the importance of each of the following *Project Management Skills* for new CIS professionals.

**Business Intelligence**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Important	30	25.4	25.9	25.9
	Very Important	78	66.1	67.2	93.1
	No Opinion	8	6.8	6.9	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Integration Management**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Important	27	22.9	23.1	23.1
	Very Important	80	67.8	68.4	91.5
	No Opinion	10	8.5	8.5	100.0
	Total	117	99.2	100.0	
Missing	System	1	.8		
Total		118	100.0		

**Knowledge Management**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	2	1.7	1.7	1.7
	Somewhat Important	43	36.4	36.8	38.5
	Very Important	61	51.7	52.1	90.6
	No Opinion	11	9.3	9.4	100.0
	Total	117	99.2	100.0	
Missing	System	1	.8		
Total		118	100.0		

**Quality Management**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	1	.8	.9	.9
	Somewhat Important	34	28.8	29.3	30.2
	Very Important	74	62.7	63.8	94.0
	No Opinion	7	5.9	6.0	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

Please rate the importance of each of the following General Business Skills for new CIS professionals.

**Accounting**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	15	12.7	12.9	12.9
	Somewhat Important	62	52.5	53.4	66.4
	Very Important	34	28.8	29.3	95.7
	No Opinion	5	4.2	4.3	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Business Law**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	22	18.6	19.1	19.1
	Somewhat Important	66	55.9	57.4	76.5
	Very Important	19	16.1	16.5	93.0
	No Opinion	8	6.8	7.0	100.0
	Total	115	97.5	100.0	
Missing	System	3	2.5		
Total		118	100.0		

**Finance**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	13	11.0	11.2	11.2
	Somewhat Important	58	49.2	50.0	61.2
	Very Important	40	33.9	34.5	95.7
	No Opinion	5	4.2	4.3	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Management**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	2	1.7	1.7	1.7
	Somewhat Important	36	30.5	31.3	33.0
	Very Important	75	63.6	65.2	98.3
	No Opinion	2	1.7	1.7	100.0
	Total	115	97.5	100.0	
Missing	System	3	2.5		
Total		118	100.0		

**Marketing**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	21	17.8	18.1	18.1
	Somewhat Important	65	55.1	56.0	74.1
	Very Important	26	22.0	22.4	96.6
	No Opinion	4	3.4	3.4	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		



**Statistics**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	14	11.9	12.1	12.1
	Somewhat Important	62	52.5	53.4	65.5
	Very Important	35	29.7	30.2	95.7
	No Opinion	5	4.2	4.3	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Other**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	2	1.7	5.6	5.6
	Somewhat Important	5	4.2	13.9	19.4
	Very Important	3	2.5	8.3	27.8
	No Opinion	26	22.0	72.2	100.0
	Total	36	30.5	100.0	
Missing	System	82	69.5		
Total		118	100.0		

**Please rate the importance of each of the following "Soft Skills" for new CIS professionals.**

**Ability to adapt**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Important	1	.8	.9	.9
	Very Important	112	94.9	97.4	98.3
	No Opinion	2	1.7	1.7	100.0
	Total	115	97.5	100.0	
Missing	System	3	2.5		
Total		118	100.0		

**Ethics**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Important	15	12.7	12.9	12.9
	Very Important	99	83.9	85.3	98.3
	No Opinion	2	1.7	1.7	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Leadership**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Important	37	31.4	31.9	31.9
	Very Important	77	65.3	66.4	98.3
	No Opinion	2	1.7	1.7	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Oral communication**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Important	9	7.6	7.8	7.8
	Very Important	104	88.1	90.4	98.3
	No Opinion	2	1.7	1.7	100.0
	Total	115	97.5	100.0	
Missing	System	3	2.5		
Total		118	100.0		

**Presentation skills**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Important	31	26.3	26.7	26.7
	Very Important	83	70.3	71.6	98.3
	No Opinion	2	1.7	1.7	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Written communication**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Important	10	8.5	8.7	8.7
	Very Important	102	86.4	88.7	97.4
	No Opinion	3	2.5	2.6	100.0
	Total	115	97.5	100.0	
Missing	System	3	2.5		
Total		118	100.0		

**Please rate how well your education at Ferris prepared you in each of the following *General PC Skills*:**

**Word processing**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	13	11.0	11.7	11.7
	Somewhat Prepared	38	32.2	34.2	45.9
	Very Prepared	44	37.3	39.6	85.6
	No Opinion	16	13.6	14.4	100.0
	Total	111	94.1	100.0	
Missing	System	7	5.9		
Total		118	100.0		

**Spreadsheets**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	22	18.6	19.6	19.6
	Somewhat Prepared	40	33.9	35.7	55.4
	Very Prepared	33	28.0	29.5	84.8
	No Opinion	17	14.4	15.2	100.0
	Total	112	94.9	100.0	
Missing	System	6	5.1		
Total		118	100.0		

**Presentation tools**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	21	17.8	18.8	18.8
	Somewhat Prepared	40	33.9	35.7	54.5
	Very Prepared	35	29.7	31.2	85.7
	No Opinion	16	13.6	14.3	100.0
	Total	112	94.9	100.0	
Missing	System	6	5.1		
Total		118	100.0		

**Desktop Databases**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	2	1.7	1.8	1.8
	Somewhat Prepared	52	44.1	46.4	48.2
	Very Prepared	50	42.4	44.6	92.9
	No Opinion	8	6.8	7.1	100.0
	Total	112	94.9	100.0	
Missing	System	6	5.1		
Total		118	100.0		

Please rate how well your education at Ferris prepared you in each of the following Programming Skills:

**ASP**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	51	43.2	46.8	46.8
	Somewhat Prepared	15	12.7	13.8	60.6
	Very Prepared	1	.8	.9	61.5
	No Opinion	42	35.6	38.5	100.0
	Total	109	92.4	100.0	
Missing	System	9	7.6		
Total		118	100.0		

**C++**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	51	43.2	46.4	46.4
	Somewhat Prepared	14	11.9	12.7	59.1
	Very Prepared	7	5.9	6.4	65.5
	No Opinion	38	32.2	34.5	100.0
	Total	110	93.2	100.0	
Missing	System	8	6.8		
Total		118	100.0		

**C#**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	57	48.3	52.8	52.8
	Somewhat Prepared	8	6.8	7.4	60.2
	Very Prepared	2	1.7	1.9	62.0
	No Opinion	41	34.7	38.0	100.0
	Total	108	91.5	100.0	
Missing	System	10	8.5		
Total		118	100.0		

**COBOL**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	6	5.1	5.3	5.3
	Somewhat Prepared	22	18.6	19.5	24.8
	Very Prepared	72	61.0	63.7	88.5
	No Opinion	13	11.0	11.5	100.0
	Total	113	95.8	100.0	
Missing	System	5	4.2		
Total		118	100.0		

**HTML**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	46	39.0	41.8	41.8
	Somewhat Prepared	18	15.3	16.4	58.2
	Very Prepared	10	8.5	9.1	67.3
	No Opinion	36	30.5	32.7	100.0
	Total	110	93.2	100.0	
Missing	System	8	6.8		
Total		118	100.0		

**Java**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	51	43.2	46.4	46.4
	Somewhat Prepared	15	12.7	13.6	60.0
	Very Prepared	7	5.9	6.4	66.4
	No Opinion	37	31.4	33.6	100.0
	Total	110	93.2	100.0	
Missing	System	8	6.8		
Total		118	100.0		

**JavaScript**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	56	47.5	50.9	50.9
	Somewhat Prepared	15	12.7	13.6	64.5
	Very Prepared	2	1.7	1.8	66.4
	No Opinion	37	31.4	33.6	100.0
	Total	110	93.2	100.0	
Missing	System	8	6.8		
Total		118	100.0		

**PHP**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	65	55.1	59.1	59.1
	Somewhat Prepared	6	5.1	5.5	64.5
	No Opinion	39	33.1	35.5	100.0
	Total	110	93.2	100.0	
Missing	System	8	6.8		
Total		118	100.0		

**Visual BASIC**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	45	38.1	40.9	40.9
	Somewhat Prepared	22	18.6	20.0	60.9
	Very Prepared	12	10.2	10.9	71.8
	No Opinion	31	26.3	28.2	100.0
	Total	110	93.2	100.0	
Missing	System	8	6.8		
Total		118	100.0		

**XML**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	60	50.8	56.1	56.1
	Somewhat Prepared	7	5.9	6.5	62.6
	Very Prepared	2	1.7	1.9	64.5
	No Opinion	38	32.2	35.5	100.0
	Total	107	90.7	100.0	
Missing	System	11	9.3		
Total		118	100.0		



Please rate how well your education at Ferris prepared you in each of the following *Database Skills*:

**DB2**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	44	37.3	38.9	38.9
	Somewhat Prepared	26	22.0	23.0	61.9
	Very Prepared	17	14.4	15.0	77.0
	No Opinion	26	22.0	23.0	100.0
	Total	113	95.8	100.0	
Missing	System	5	4.2		
Total		118	100.0		

**Oracle**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	55	46.6	48.7	48.7
	Somewhat Prepared	16	13.6	14.2	62.8
	Very Prepared	2	1.7	1.8	64.6
	No Opinion	40	33.9	35.4	100.0
	Total	113	95.8	100.0	
Missing	System	5	4.2		
Total		118	100.0		

**SQL**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	36	30.5	32.1	32.1
	Somewhat Prepared	35	29.7	31.2	63.4
	Very Prepared	15	12.7	13.4	76.8
	No Opinion	26	22.0	23.2	100.0
	Total	112	94.9	100.0	
Missing	System	6	5.1		
Total		118	100.0		

**SQL Server**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	45	38.1	40.2	40.2
	Somewhat Prepared	23	19.5	20.5	60.7
	Very Prepared	10	8.5	8.9	69.6
	No Opinion	34	28.8	30.4	100.0
	Total	112	94.9	100.0	
Missing	System	6	5.1		
Total		118	100.0		

Please rate how well your education at Ferris prepared you in each of the following *Systems Analysis and Design Skills*:

**Database design**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	8	6.8	7.1	7.1
	Somewhat Prepared	49	41.5	43.4	50.4
	Very Prepared	47	39.8	41.6	92.0
	No Opinion	9	7.6	8.0	100.0
	Total	113	95.8	100.0	
Missing	System	5	4.2		
Total		118	100.0		

**IDE**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	45	38.1	40.9	40.9
	Somewhat Prepared	22	18.6	20.0	60.9
	Very Prepared	5	4.2	4.5	65.5
	No Opinion	38	32.2	34.5	100.0
	Total	110	93.2	100.0	
Missing	System	8	6.8		
Total		118	100.0		

**Rational Tools**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	45	38.1	40.9	40.9
	Somewhat Prepared	19	16.1	17.3	58.2
	Very Prepared	8	6.8	7.3	65.5
	No Opinion	38	32.2	34.5	100.0
	Total	110	93.2	100.0	
Missing	System	8	6.8		
Total		118	100.0		

**UML**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	50	42.4	45.5	45.5
	Somewhat Prepared	12	10.2	10.9	56.4
	Very Prepared	3	2.5	2.7	59.1
	No Opinion	45	38.1	40.9	100.0
	Total	110	93.2	100.0	
Missing	System	8	6.8		
Total		118	100.0		

**Please rate how well your education at Ferris prepared you in each of the following *General Business Skills*:**

**Business Intelligence**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	23	19.5	20.7	20.7
	Somewhat Prepared	47	39.8	42.3	63.1
	Very Prepared	28	23.7	25.2	88.3
	No Opinion	13	11.0	11.7	100.0
	Total	111	94.1	100.0	
Missing	System	7	5.9		
Total		118	100.0		

**Integration Management**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	25	21.2	22.5	22.5
	Somewhat Prepared	44	37.3	39.6	62.2
	Very Prepared	29	24.6	26.1	88.3
	No Opinion	13	11.0	11.7	100.0
	Total	111	94.1	100.0	
Missing	System	7	5.9		
Total		118	100.0		

**Knowledge Management**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	25	21.2	22.5	22.5
	Somewhat Prepared	49	41.5	44.1	66.7
	Very Prepared	23	19.5	20.7	87.4
	No Opinion	14	11.9	12.6	100.0
	Total	111	94.1	100.0	
Missing	System	7	5.9		
Total		118	100.0		

**Quality Management**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	23	19.5	20.5	20.5
	Somewhat Prepared	54	45.8	48.2	68.8
	Very Prepared	22	18.6	19.6	88.4
	No Opinion	13	11.0	11.6	100.0
	Total	112	94.9	100.0	
Missing	System	6	5.1		
Total		118	100.0		

**Accounting**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	2	1.7	1.7	1.7
	Somewhat Prepared	57	48.3	49.1	50.9
	Very Prepared	53	44.9	45.7	96.6
	No Opinion	4	3.4	3.4	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Business Law**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	13	11.0	11.3	11.3
	Somewhat Prepared	59	50.0	51.3	62.6
	Very Prepared	34	28.8	29.6	92.2
	No Opinion	9	7.6	7.8	100.0
	Total	115	97.5	100.0	
Missing	System	3	2.5		
Total		118	100.0		

**Finance**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	5	4.2	4.3	4.3
	Somewhat Prepared	67	56.8	57.8	62.1
	Very Prepared	41	34.7	35.3	97.4
	No Opinion	3	2.5	2.6	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Management**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	8	6.8	6.9	6.9
	Somewhat Prepared	53	44.9	45.7	52.6
	Very Prepared	53	44.9	45.7	98.3
	No Opinion	2	1.7	1.7	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Marketing**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	14	11.9	12.1	12.1
	Somewhat Prepared	62	52.5	53.4	65.5
	Very Prepared	35	29.7	30.2	95.7
	No Opinion	5	4.2	4.3	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Statistics**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	9	7.6	7.8	7.8
	Somewhat Prepared	57	48.3	49.1	56.9
	Very Prepared	44	37.3	37.9	94.8
	No Opinion	6	5.1	5.2	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

Please rate how well your education at Ferris prepared you in each of the following "Soft Skills":

**Ability to adapt**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	4	3.4	3.5	3.5
	Somewhat Prepared	42	35.6	36.5	40.0
	Very Prepared	64	54.2	55.7	95.7
	No Opinion	5	4.2	4.3	100.0
	Total	115	97.5	100.0	
Missing	System	3	2.5		
Total		118	100.0		

**Ethics**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	9	7.6	7.8	7.8
	Somewhat Prepared	43	36.4	37.1	44.8
	Very Prepared	53	44.9	45.7	90.5
	No Opinion	11	9.3	9.5	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Leadership**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	8	6.8	6.9	6.9
	Somewhat Prepared	52	44.1	44.8	51.7
	Very Prepared	50	42.4	43.1	94.8
	No Opinion	6	5.1	5.2	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		



**Oral communication**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	2	1.7	1.7	1.7
	Somewhat Prepared	50	42.4	43.1	44.8
	Very Prepared	59	50.0	50.9	95.7
	No Opinion	5	4.2	4.3	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Presentation skills**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	5	4.2	4.3	4.3
	Somewhat Prepared	53	44.9	45.7	50.0
	Very Prepared	53	44.9	45.7	95.7
	No Opinion	5	4.2	4.3	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Written communication**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	5	4.2	4.3	4.3
	Somewhat Prepared	44	37.3	37.9	42.2
	Very Prepared	62	52.5	53.4	95.7
	No Opinion	5	4.2	4.3	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Section 2B**  
**Employer Survey**

We used the results of a section of an advisory board survey that specifically addressed CIS graduates. The advisory board meeting was held in October 2010.

Most advisory board members agree or strongly agree that CIS graduates had good presentation skills (57.1%), general business skills (57.1%), and writing skills (57.1%). Although less than half were satisfied with CIS interns (42.9%), they were much more satisfied with CIS graduates (57.1%). Apparently, after completing an internship and taking a few more classes, CIS students mature and become more appealing to employers.

Almost half of the advisory board felt that the CIS program needed to upgrade its equipment (42.9%).

**Salary increases**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	10.0	14.3	14.3
	Agree	2	20.0	28.6	42.9
	No opinion	4	40.0	57.1	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**Outsourced jobs**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	10.0	14.3	14.3
	Disagree	4	40.0	57.1	71.4
	Strongly agree	2	20.0	28.6	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**Used cloud computing**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	3	30.0	42.9	42.9
	Agree	1	10.0	14.3	57.1
	Strongly agree	2	20.0	28.6	85.7
	No opinion	1	10.0	14.3	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**Decrease IT jobs**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	30.0	42.9	42.9
	Disagree	3	30.0	42.9	85.7
	Strongly agree	1	10.0	14.3	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**Will increase cloud computing**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	10.0	14.3	14.3
	Disagree	2	20.0	28.6	42.9
	Agree	1	10.0	14.3	57.1
	Strongly agree	2	20.0	28.6	85.7
	No opinion	1	10.0	14.3	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**FSU CIS Grads strong tech skills**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	20.0	28.6	28.6
	Agree	1	10.0	14.3	42.9
	Strongly agree	1	10.0	14.3	57.1
	No opinion	3	30.0	42.9	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**FSU CIS Grads strong presentation skills**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	3	30.0	42.9	42.9
	Strongly agree	1	10.0	14.3	57.1
	No opinion	3	30.0	42.9	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**FSU CIS Grads strong writing skills**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	3	30.0	42.9	42.9
	Strongly agree	1	10.0	14.3	57.1
	No opinion	3	30.0	42.9	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**FSU CIS Grads strong business skills**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	4	40.0	57.1	57.1
	No opinion	3	30.0	42.9	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**Overall satisfaction with FSU CIS interns**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	3	30.0	42.9	42.9
	No opinion	4	40.0	57.1	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**Overall satisfaction with FSU CIS graduates**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	3	30.0	42.9	42.9
	Strongly agree	1	10.0	14.3	57.1
	No opinion	3	30.0	42.9	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**CIS needs equipment upgrades**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	10.0	14.3	14.3
	Agree	2	20.0	28.6	42.9
	Strongly agree	1	10.0	14.3	57.1
	No opinion	3	30.0	42.9	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**Conclusions**

To summarize, the data indicate that most employers were satisfied with CIS graduates' technical skills, although the CIS program could benefit from additional funding. Despite the publicity surrounding outsourcing, only 20% of the respondents engaged in that practice

Section 2C  
Student Exit/Graduating Seniors Survey

The results of the graduating student survey is shown below. Seniors reported that most CIS faculty were helpful (86.7%), and 13.3% felt all CIS faculty were helpful. CIS seniors felt that most faculty were respectful of students (86.7%), and 13.3% felt all CIS faculty were respectful. Most seniors felt that CIS faculty were fair (93.4%), 86.7% felt that students were free express themselves, 80% felt most or all CIS faculty defined course objectives clearly, and students were satisfied with both the availability of their advisors (93.3%), as well as the quality of advising (78.5%).

Most seniors (78.5%) agreed or strongly agreed that the CIS program prepared them for a job, although only 60% felt that their internship was a valuable experience. Most felt that the courses were challenging (71.4%), were satisfied with faculty advising (71.4%), and that the CIS program enhanced independent learning skills (64.3%).

Overall, 53.2% were satisfied with the CIS program (although 30.8% were neutral). Most of the seniors were male (73.3%), while 26.7 were female.

Related tables are shown below. A comprehensive list is shown in Appendix A.

CIS SENIORS SECTION

**Faculty helpful**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Most of the faculty	13	86.7	86.7	86.7
	All of the faculty	2	13.3	13.3	100.0
	Total	15	100.0	100.0	

**Faculty respect students**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some of the faculty	2	13.3	13.3	13.3
	Most of the faculty	6	40.0	40.0	53.3
	All of the faculty	7	46.7	46.7	100.0
	Total	15	100.0	100.0	

**Faculty fair**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some of the faculty	1	6.7	6.7	6.7
	Most of the faculty	7	46.7	46.7	53.3
	All of the faculty	7	46.7	46.7	100.0
Total		15	100.0	100.0	

**Students free to express ideas**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some of the faculty	1	6.7	6.7	6.7
	Most of the faculty	6	40.0	40.0	46.7
	All of the faculty	7	46.7	46.7	93.3
	No opinion	1	6.7	6.7	100.0
Total		15	100.0	100.0	

**Enthusiastic**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some of the faculty	3	20.0	20.0	20.0
	Most of the faculty	7	46.7	46.7	66.7
	All of the faculty	5	33.3	33.3	100.0
Total		15	100.0	100.0	



**Objectives clear**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some of the faculty	1	6.7	6.7	6.7
	Most of the faculty	7	46.7	46.7	53.3
	All of the faculty	6	40.0	40.0	93.3
	No opinion	1	6.7	6.7	100.0
	Total	15	100.0	100.0	

**Advisor available**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some of the faculty	1	6.7	6.7	6.7
	Most of the faculty	3	20.0	20.0	26.7
	All of the faculty	11	73.3	73.3	100.0
	Total	15	100.0	100.0	

**Will prepare for job**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	13.3	14.3	14.3
	Neutral	1	6.7	7.1	21.4
	Agree	10	66.7	71.4	92.9
	Strongly agree	1	6.7	7.1	100.0
	Total	14	93.3	100.0	
Missing	System	1	6.7		
Total		15	100.0		

**Internship valuable**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	4	26.7	40.0	40.0
	Strongly agree	6	40.0	60.0	100.0
	Total	10	66.7	100.0	
Missing	System	5	33.3		
Total		15	100.0		

**Challenging**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	6.7	7.1	7.1
	Neutral	3	20.0	21.4	28.6
	Agree	8	53.3	57.1	85.7
	Strongly agree	2	13.3	14.3	100.0
	Total	14	93.3	100.0	
Missing	System	1	6.7		
Total		15	100.0		

**Advising adequate**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	13.3	14.3	14.3
	Neutral	2	13.3	14.3	28.6
	Agree	5	33.3	35.7	64.3
	Strongly agree	5	33.3	35.7	100.0
	Total	14	93.3	100.0	
Missing	System	1	6.7		
Total		15	100.0		

**Understand value of degree**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	2	13.3	14.3	14.3
	Agree	4	26.7	28.6	42.9
	Strongly agree	8	53.3	57.1	100.0
	Total	14	93.3	100.0	
Missing	System	1	6.7		
Total		15	100.0		

**More web delivery**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	5	33.3	35.7	35.7
	Neutral	4	26.7	28.6	64.3
	Agree	3	20.0	21.4	85.7
	Strongly agree	2	13.3	14.3	100.0
	Total	14	93.3	100.0	
Missing	System	1	6.7		
Total		15	100.0		

**Blackboard valuable**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	13.3	14.3	14.3
	Neutral	6	40.0	42.9	57.1
	Agree	4	26.7	28.6	85.7
	Strongly agree	2	13.3	14.3	100.0
	Total	14	93.3	100.0	
Missing	System	1	6.7		
Total		15	100.0		

**Prior background helped**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	6.7	7.1	7.1
	Neutral	1	6.7	7.1	14.3
	Agree	8	53.3	57.1	71.4
	Strongly agree	4	26.7	28.6	100.0
	Total	14	93.3	100.0	
Missing	System	1	6.7		
Total		15	100.0		

**Enhanced independent learning**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	13.3	14.3	14.3
	Neutral	3	20.0	21.4	35.7
	Agree	5	33.3	35.7	71.4
	Strongly agree	4	26.7	28.6	100.0
	Total	14	93.3	100.0	
Missing	System	1	6.7		
Total		15	100.0		

**CIS prepares for jobs**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	6.7	7.1	7.1
	Neutral	2	13.3	14.3	21.4
	Agree	8	53.3	57.1	78.6
	Strongly agree	3	20.0	21.4	100.0
	Total	14	93.3	100.0	
Missing	System	1	6.7		
Total		15	100.0		

**Have communication skills**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	2	13.3	14.3	14.3
	Agree	1	6.7	7.1	21.4
	Strongly agree	11	73.3	78.6	100.0
	Total	14	93.3	100.0	
Missing	System	1	6.7		
Total		15	100.0		

**Overall satisfaction with CIS**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	13.3	15.4	15.4
	Neutral	4	26.7	30.8	46.2
	Agree	6	40.0	46.2	92.3
	Strongly agree	1	6.7	7.7	100.0
	Total	13	86.7	100.0	
Missing	System	2	13.3		
Total		15	100.0		

**Hardware adequate**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	6.7	6.7	6.7
	Neutral	1	6.7	6.7	13.3
	Agree	8	53.3	53.3	66.7
	Strongly agree	5	33.3	33.3	100.0
	Total	15	100.0	100.0	

**Software adequate**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	6.7	6.7	6.7
	Disagree	1	6.7	6.7	13.3
	Neutral	2	13.3	13.3	26.7
	Agree	6	40.0	40.0	66.7
	Strongly agree	5	33.3	33.3	100.0
Total		15	100.0	100.0	

**MSDN used**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	10	66.7	66.7	66.7
	Disagree	5	33.3	33.3	100.0
Total		15	100.0	100.0	

**Gender m=1 f=2**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	11	73.3	73.3	73.3
	Female	4	26.7	26.7	100.0
Total		15	100.0	100.0	

SECTION 2 D-1  
CIS B.S. Majors Only

CIS B.S. majors overwhelmingly reported positively about the CIS faculty. They responded that most or all of the faculty were helpful (96.6%), respectful (93.1%), fair (93.1%), enthusiastic (86.2%), available for academic advising (93.1%), and provided adequate academic advising (70.8%). They also felt that class objectives were clearly stated (86%), and that the CIS program prepared them for a job (75%). Surprisingly, only 41.2% felt that an internship was valuable. Overall, 47.8% were satisfied with the program with 39.1% expressing a neutral response.

Demographically, 75% of the students were male, 25% were female.

Related tables are shown below. A comprehensive list appears in Appendix A.

**Faculty helpful**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some of the faculty	1	3.4	3.4	3.4
	Most of the faculty	23	79.3	79.3	82.8
	All of the faculty	5	17.2	17.2	100.0
	Total	29	100.0	100.0	

**Faculty respect students**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some of the faculty	2	6.9	6.9	6.9
	Most of the faculty	14	48.3	48.3	55.2
	All of the faculty	13	44.8	44.8	100.0
	Total	29	100.0	100.0	

**Faculty fair**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some of the faculty	1	3.4	3.4	3.4
	Most of the faculty	15	51.7	51.7	55.2
	All of the faculty	12	41.4	41.4	96.6
	No opinion	1	3.4	3.4	100.0
	Total	29	100.0	100.0	

**Students free to express ideas**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some of the faculty	1	3.4	3.4	3.4
	Most of the faculty	11	37.9	37.9	41.4
	All of the faculty	16	55.2	55.2	96.6
	No opinion	1	3.4	3.4	100.0
	Total	29	100.0	100.0	

**Enthusiastic**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some of the faculty	4	13.8	13.8	13.8
	Most of the faculty	13	44.8	44.8	58.6
	All of the faculty	12	41.4	41.4	100.0
	Total	29	100.0	100.0	

**Objectives clear**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some of the faculty	3	10.3	10.3	10.3
	Most of the faculty	12	41.4	41.4	51.7
	All of the faculty	13	44.8	44.8	96.6
	No opinion	1	3.4	3.4	100.0
	Total	29	100.0	100.0	

**Advisor available**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some of the faculty	2	6.9	6.9	6.9
	Most of the faculty	4	13.8	13.8	20.7
	All of the faculty	23	79.3	79.3	100.0
	Total	29	100.0	100.0	



**Will prepare for job**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	4	13.8	16.7	16.7
	Neutral	1	3.4	4.2	20.8
	Agree	13	44.8	54.2	75.0
	Strongly agree	6	20.7	25.0	100.0
	Total	24	82.8	100.0	
Missing	System	5	17.2		
Total		29	100.0		

**Internship valuable**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	10	34.5	58.8	58.8
	Strongly agree	7	24.1	41.2	100.0
	Total	17	58.6	100.0	
Missing	System	12	41.4		
Total		29	100.0		

**Challenging**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	6.9	8.3	8.3
	Neutral	8	27.6	33.3	41.7
	Agree	9	31.0	37.5	79.2
	Strongly agree	5	17.2	20.8	100.0
	Total	24	82.8	100.0	
Missing	System	5	17.2		
Total		29	100.0		

**Advising adequate**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	6.9	8.3	8.3
	Disagree	1	3.4	4.2	12.5
	Neutral	4	13.8	16.7	29.2
	Agree	8	27.6	33.3	62.5
	Strongly agree	9	31.0	37.5	100.0
	Total	24	82.8	100.0	
Missing	System	5	17.2		
Total		29	100.0		

**Understand value of degree**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	3.4	4.2	4.2
	Neutral	4	13.8	16.7	20.8
	Agree	8	27.6	33.3	54.2
	Strongly agree	11	37.9	45.8	100.0
	Total	24	82.8	100.0	
Missing	System	5	17.2		
Total		29	100.0		

**More web delivery**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	7	24.1	29.2	29.2
	Disagree	1	3.4	4.2	33.3
	Neutral	9	31.0	37.5	70.8
	Agree	4	13.8	16.7	87.5
	Strongly agree	3	10.3	12.5	100.0
	Total	24	82.8	100.0	
Missing	System	5	17.2		
Total		29	100.0		

**Blackboard valuable**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	5	17.2	20.8	20.8
	Neutral	9	31.0	37.5	58.3
	Agree	7	24.1	29.2	87.5
	Strongly agree	3	10.3	12.5	100.0
	Total	24	82.8	100.0	
Missing	System	5	17.2		
Total		29	100.0		

**Prior background helped**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	3.4	4.2	4.2
	Neutral	5	17.2	20.8	25.0
	Agree	11	37.9	45.8	70.8
	Strongly agree	7	24.1	29.2	100.0
	Total	24	82.8	100.0	
Missing	System	5	17.2		
Total		29	100.0		

**Enhanced independent learning**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	6.9	8.3	8.3
	Neutral	7	24.1	29.2	37.5
	Agree	9	31.0	37.5	75.0
	Strongly agree	6	20.7	25.0	100.0
	Total	24	82.8	100.0	
Missing	System	5	17.2		
Total		29	100.0		

**CIS prepares for jobs**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	6.9	8.3	8.3
	Neutral	4	13.8	16.7	25.0
	Agree	14	48.3	58.3	83.3
	Strongly agree	4	13.8	16.7	100.0
	Total	24	82.8	100.0	
Missing	System	5	17.2		
Total		29	100.0		

**Have communication skills**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	3.4	4.2	4.2
	Neutral	5	17.2	20.8	25.0
	Agree	5	17.2	20.8	45.8
	Strongly agree	13	44.8	54.2	100.0
	Total	24	82.8	100.0	
Missing	System	5	17.2		
Total		29	100.0		

**Overall satisfaction with CIS**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	3	10.3	13.0	13.0
	Neutral	9	31.0	39.1	52.2
	Agree	7	24.1	30.4	82.6
	Strongly agree	4	13.8	17.4	100.0
	Total	23	79.3	100.0	
Missing	System	6	20.7		
Total		29	100.0		

**Hardware adequate**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	3.4	3.4	3.4
	Disagree	4	13.8	13.8	17.2
	Neutral	1	3.4	3.4	20.7
	Agree	15	51.7	51.7	72.4
	Strongly agree	8	27.6	27.6	100.0
	Total	29	100.0	100.0	

**Software adequate**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	3.4	3.6	3.6
	Disagree	3	10.3	10.7	14.3
	Neutral	3	10.3	10.7	25.0
	Agree	14	48.3	50.0	75.0
	Strongly agree	7	24.1	25.0	100.0
	Total	28	96.6	100.0	
Missing	System	1	3.4		
Total		29	100.0		

**MSDN used**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	19	65.5	65.5	65.5
	Disagree	9	31.0	31.0	96.6
	Neutral	1	3.4	3.4	100.0
	Total	29	100.0	100.0	

**Gender m=1 f=2**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	21	72.4	75.0	75.0
	Female	7	24.1	25.0	100.0
	Total	28	96.6	100.0	
Missing	System	1	3.4		
Total		29	100.0		

**Conclusions**

Graduates of the CIS program were generally satisfied with the program and felt that the faculty were fair and enthusiastic. CIS course objectives were clearly defined and faculty were helpful.

“Aspire to recruit more teachers like James Bandstra. He was the best teacher I've had.”

“I enjoyed my time at Ferris, and learning under the distinctive style of Mr. Andrew Suhy, very enjoyable. Best regards to Mr. Suhy, time in classes was well spent. Graduate 1994 BIS Computer Information Systems. Todd Zimmer”

## CURRENT CIS AAS STUDENTS ONLY

Most CIS AAS students responded that most or all CIS faculty were helpful (87.5%), respectful (100%), enthusiastic (75%), were available for academic advising (75%), provided course objectives that were clear (62.5%), and allowed students to express themselves in class (75%).

Most CIS AAS students felt that their degree would help them get a job (57.2%).

Overall, 42.9% were satisfied with the AAS degree. Only 33% felt that an internship would be a valuable experience.

Related tables are shown below. Comprehensive data are shown in Appendix A.

## CIS AAS ONLY TABLES

## Faculty helpful

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid    Some of the faculty	1	12.5	12.5	12.5
Most of the faculty	7	87.5	87.5	100.0
Total	8	100.0	100.0	

## Faculty respect students

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid    Most of the faculty	7	87.5	87.5	87.5
All of the faculty	1	12.5	12.5	100.0
Total	8	100.0	100.0	

**Faculty fair**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some of the faculty	1	12.5	12.5	12.5
	Most of the faculty	4	50.0	50.0	62.5
	All of the faculty	2	25.0	25.0	87.5
	No opinion	1	12.5	12.5	100.0
	Total	8	100.0	100.0	

**Students free to express ideas**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Most of the faculty	6	75.0	75.0	75.0
	All of the faculty	2	25.0	25.0	100.0
	Total	8	100.0	100.0	

**Enthusiastic**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some of the faculty	2	25.0	25.0	25.0
	Most of the faculty	3	37.5	37.5	62.5
	All of the faculty	3	37.5	37.5	100.0
	Total	8	100.0	100.0	

**Objectives clear**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some of the faculty	3	37.5	37.5	37.5
	Most of the faculty	3	37.5	37.5	75.0
	All of the faculty	2	25.0	25.0	100.0
	Total	8	100.0	100.0	



**Advisor available**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some of the faculty	2	25.0	25.0	25.0
	Most of the faculty	1	12.5	12.5	37.5
	All of the faculty	5	62.5	62.5	100.0
	Total	8	100.0	100.0	

**Will prepare for job**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	12.5	14.3	14.3
	Neutral	2	25.0	28.6	42.9
	Agree	3	37.5	42.9	85.7
	Strongly agree	1	12.5	14.3	100.0
	Total	7	87.5	100.0	
Missing	System	1	12.5		
Total		8	100.0		

**Internship valuable**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	2	25.0	66.7	66.7
	Strongly agree	1	12.5	33.3	100.0
	Total	3	37.5	100.0	
Missing	System	5	62.5		
Total		8	100.0		

**Challenging**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	12.5	14.3	14.3
	Neutral	4	50.0	57.1	71.4
	Agree	2	25.0	28.6	100.0
	Total	7	87.5	100.0	
Missing	System	1	12.5		
Total		8	100.0		

**Advising adequate**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	25.0	28.6	28.6
	Neutral	2	25.0	28.6	57.1
	Agree	2	25.0	28.6	85.7
	Strongly agree	1	12.5	14.3	100.0
	Total	7	87.5	100.0	
Missing	System	1	12.5		
Total		8	100.0		

**Understand value of degree**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	12.5	14.3	14.3
	Neutral	3	37.5	42.9	57.1
	Agree	2	25.0	28.6	85.7
	Strongly agree	1	12.5	14.3	100.0
	Total	7	87.5	100.0	
Missing	System	1	12.5		
Total		8	100.0		

**More web delivery**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	12.5	14.3	14.3
	Disagree	2	25.0	28.6	42.9
	Neutral	2	25.0	28.6	71.4
	Agree	2	25.0	28.6	100.0
	Total	7	87.5	100.0	
Missing	System	1	12.5		
Total		8	100.0		

**Blackboard valuable**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	25.0	28.6	28.6
	Neutral	1	12.5	14.3	42.9
	Agree	4	50.0	57.1	100.0
	Total	7	87.5	100.0	
Missing	System	1	12.5		
Total		8	100.0		

**Prior background helped**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	12.5	14.3	14.3
	Neutral	3	37.5	42.9	57.1
	Agree	3	37.5	42.9	100.0
	Total	7	87.5	100.0	
Missing	System	1	12.5		
Total		8	100.0		

**Enhanced independent learning**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	25.0	28.6	28.6
	Neutral	1	12.5	14.3	42.9
	Agree	4	50.0	57.1	100.0
	Total	7	87.5	100.0	
Missing	System	1	12.5		
Total		8	100.0		

**CIS prepares for jobs**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	3	37.5	42.9	42.9
	Agree	4	50.0	57.1	100.0
	Total	7	87.5	100.0	
Missing	System	1	12.5		
Total		8	100.0		

**Have communication skills**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	3	37.5	42.9	42.9
	Agree	2	25.0	28.6	71.4
	Strongly agree	2	25.0	28.6	100.0
	Total	7	87.5	100.0	
Missing	System	1	12.5		
Total		8	100.0		

**Overall satisfaction with CIS**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	4	50.0	57.1	57.1
	Agree	2	25.0	28.6	85.7
	Strongly agree	1	12.5	14.3	100.0
	Total	7	87.5	100.0	
Missing	System	1	12.5		
Total		8	100.0		

**Hardware adequate**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	12.5	14.3	14.3
	Neutral	1	12.5	14.3	28.6
	Agree	4	50.0	57.1	85.7
	Strongly agree	1	12.5	14.3	100.0
	Total	7	87.5	100.0	
Missing	System	1	12.5		
Total		8	100.0		

**Software adequate**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	1	12.5	12.5	12.5
	Agree	6	75.0	75.0	87.5
	Strongly agree	1	12.5	12.5	100.0
	Total	8	100.0	100.0	

**MSDN used**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	25.0	28.6	28.6
	Disagree	4	50.0	57.1	85.7
	Agree	1	12.5	14.3	100.0
	Total	7	87.5	100.0	
Missing	System	1	12.5		
Total		8	100.0		

**Gender male=1 female=2**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	3	37.5	37.5	37.5
Female	5	62.5	62.5	100.0
Total	8	100.0	100.0	

SECTION 2 E  
COLLEGE OF BUSINESS SURVEYS

Email surveys were sent to 67 College of Business faculty and 28 responded for a response rate of 18%.

Most of the faculty agreed or strongly agreed that they were familiar with the CIS major (75%), minor (67.9%) and the student professional chapter of AITP (53.5%). They also felt that the CIS program benefits the College of Business (77.8%) and was relevant (71.5%), comparable in quality to similar programs at other institutions (57.1%, although 32.1% indicated they did not have enough information to respond to that question).

They felt that equipment was adequate (64.3%), but only 44.4% felt that the CIS program had enough faculty to meet student needs.

Related tables shown below. A comprehensive list is shown in Appendix A.

**COB FACULTY SECTION**

**I am familiar with the CIS major**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	7.1	7.1	7.1
	Somewhat Disagree	2	7.1	7.1	14.3
	Somewhat Agree	12	42.9	42.9	57.1
	Strongly Agree	9	32.1	32.1	89.3
	NA or Insufficient Knowledge	3	10.7	10.7	100.0
	Total	28	100.0	100.0	

**I am familiar with the CIS minor**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	7.1	7.1	7.1
	Somewhat Disagree	4	14.3	14.3	21.4
	Somewhat Agree	11	39.3	39.3	60.7
	Strongly Agree	8	28.6	28.6	89.3
	NA or Insufficient Knowledge	3	10.7	10.7	100.0
	Total	28	100.0	100.0	



**I feel the CIS Degrees/Minor is of benefit to students in FSU's College of Business**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	7.1	7.4	7.4
	Somewhat Agree	4	14.3	14.8	22.2
	Strongly Agree	17	60.7	63.0	85.2
	NA or Insufficient Knowledge	4	14.3	14.8	100.0
	Total	27	96.4	100.0	
Missing	System	1	3.6		
Total		28	100.0		

**The CIS program's curriculum includes courses relevant to current business practices**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	7.1	7.1	7.1
	Somewhat Disagree	2	7.1	7.1	14.3
	Somewhat Agree	8	28.6	28.6	42.9
	Strongly Agree	12	42.9	42.9	85.7
	NA or Insufficient Knowledge	4	14.3	14.3	100.0
	Total	28	100.0	100.0	

**I am familiar with the student chapter of the AITP**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	7.1	7.1	7.1
	Somewhat Disagree	4	14.3	14.3	21.4
	Somewhat Agree	9	32.1	32.1	53.6
	Strongly Agree	6	21.4	21.4	75.0
	NA or Insufficient Knowledge	7	25.0	25.0	100.0
	Total	28	100.0	100.0	

**The quality of FSU's CIS program is comparable to the quality found in similar CIS programs across the country**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	3.6	3.6	3.6
	Somewhat Disagree	2	7.1	7.1	10.7
	Somewhat Agree	7	25.0	25.0	35.7
	Strongly Agree	9	32.1	32.1	67.9
	NA or Insufficient Knowledge	9	32.1	32.1	100.0
Total		28	100.0	100.0	

**The facilities and equipment are adequate to meet the instructional needs of the CIS program**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Disagree	3	10.7	10.7	10.7
	Somewhat Agree	12	42.9	42.9	53.6
	Strongly Agree	6	21.4	21.4	75.0
	NA or Insufficient Knowledge	7	25.0	25.0	100.0
Total		28	100.0	100.0	

**Currently, there is a sufficient number of tenure track faculty teaching within the CIS program to meet student program needs**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	17.9	18.5	18.5
	Somewhat Disagree	2	7.1	7.4	25.9
	Somewhat Agree	6	21.4	22.2	48.1
	Strongly Agree	6	21.4	22.2	70.4
	NA or Insufficient Knowledge	8	28.6	29.6	100.0
	Total	27	96.4	100.0	
Missing	System	1	3.6		
Total		28	100.0		

**The CIS program receives adequate funding and resources**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	7.1	7.4	7.4
	Somewhat Disagree	4	14.3	14.8	22.2
	Somewhat Agree	10	35.7	37.0	59.3
	Strongly Agree	4	14.3	14.8	74.1
	NA or Insufficient Knowledge	7	25.0	25.9	100.0
	Total	27	96.4	100.0	
Missing	System	1	3.6		
Total		28	100.0		

**Please specify the department where you are currently employed**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Accounting, Finance, or Information Systems	13	46.4	46.4	46.4
	Management	8	28.6	28.6	75.0
	Marketing	7	25.0	25.0	100.0
	Total	28	100.0	100.0	

**How long have you been employed at Ferris State University?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	5 yrs or less	4	14.3	14.3	14.3
	6-10 yrs	8	28.6	28.6	42.9
	11-15 yrs	1	3.6	3.6	46.4
	16-20 yrs	2	7.1	7.1	53.6
	21 or more yrs	13	46.4	46.4	100.0
	Total	28	100.0	100.0	

**What is your gender?**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	17	60.7	60.7	60.7
Female	11	39.3	39.3	100.0
Total	28	100.0	100.0	

## Section 2 F

### Advisory Board Survey

At the annual CIS Advisory Board meeting in October 2010, board members were given a survey to complete. All 8 members completed the form for a response rate of 100%.

The advisory board was asked about the importance of the following technical areas: computer network skills, IT security, programming skills, help desk skills, systems analysis and design skills, database skills, web application skills, and project management.

They were also asked about career trends in such areas as salaries, outsourcing, web migration, number of IT positions, current use of cloud computing, and the future of cloud computing.

All of the advisory board members (100%) agreed or strongly agreed that computer network, IT security, systems analysis and design, project management, and database skills were all important for their companies. There was less agreement in other areas. Most agreed or strongly agreed that web design and implementation skills (85.5%), programming skills (71.4%) and help desk skills (71.4%) were important.

With regard to future computing developments 71.5% felt that more applications will eventually migrate to the cloud and 42.9% have at least one cloud application at their company.

The advisory board was rather sanguine in its assessment of the job market for CIS graduates. Despite the popular media reports of the outsourcing of IT jobs, 71.4% of the advisory board members did not outsource their IT work. Furthermore, despite the prolonged recession, 85.5% did not report a decrease in IT jobs at their companies. Indeed, 28.6% reported salary increases for their IT personnel.

Related tables shown below. A comprehensive list shown in Appendix A.

CIS ADVISORY BOARD TABLES

#### Network skills

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	3	30.0	42.9	42.9
	Strongly agree	4	40.0	57.1	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**IT security**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	2	20.0	28.6	28.6
	Strongly agree	5	50.0	71.4	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**Programming skills**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	10.0	14.3	14.3
	Agree	4	40.0	57.1	71.4
	Strongly agree	2	20.0	28.6	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**Help desk skills**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	10.0	14.3	14.3
	Agree	5	50.0	71.4	85.7
	Strongly agree	1	10.0	14.3	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**Systems Analysis**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	4	40.0	57.1	57.1
	Strongly agree	3	30.0	42.9	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**Web applications**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	10.0	14.3	14.3
	Agree	3	30.0	42.9	57.1
	Strongly agree	3	30.0	42.9	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**Project Mgt**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	1	10.0	14.3	14.3
	Strongly agree	6	60.0	85.7	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**Database skills**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	3	30.0	42.9	42.9
	Strongly agree	4	40.0	57.1	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**Migrated to web**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	10.0	14.3	14.3
	Agree	1	10.0	14.3	28.6
	Strongly agree	4	40.0	57.1	85.7
	No opinion	1	10.0	14.3	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**Salary increases**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	10.0	14.3	14.3
	Agree	2	20.0	28.6	42.9
	No opinion	4	40.0	57.1	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		



**Outsourced jobs**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	10.0	14.3	14.3
	Disagree	4	40.0	57.1	71.4
	Strongly agree	2	20.0	28.6	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**Used cloud computing**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	3	30.0	42.9	42.9
	Agree	1	10.0	14.3	57.1
	Strongly agree	2	20.0	28.6	85.7
	No opinion	1	10.0	14.3	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**Decrease IT jobs**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	30.0	42.9	42.9
	Disagree	3	30.0	42.9	85.7
	Strongly agree	1	10.0	14.3	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**Will increase cloud computing**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	10.0	14.3	14.3
	Disagree	2	20.0	28.6	42.9
	Agree	1	10.0	14.3	57.1
	Strongly agree	2	20.0	28.6	85.7
	No opinion	1	10.0	14.3	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**Conclusions**

It appears that the IT industry is slowly recovering from the technology recession and few employers see a downturn in the employment of new CIS graduates. The future seems to be on the web. (A more detailed list of survey results is shown in Appendix A).

## SECTION 3

### PROGRAM PROFILE

**Section 3:** Program Profile: *Include Administrative Program Review document in this section. Provide the number and percentage for the variable addressed for each of the years since inception (for new programs) or the last program review.*

#### A. PROFILE OF STUDENTS.

##### 1) Student Demographic Profile.

##### a) Gender, race/ethnicity, age (use annual institutional data).

(age appears in the table for A.1.b)

CIS A.A.S. students.

Year	Enrolled	Male	Female	Ethnicity Unknown	Black	Hispanic	Indian/ Alaskan	Asian Pacific	White	Foreign
2006	18	15	3	1	4	0	0	0	13	0
2007	9	8	1	0	2	0	0	0	7	0
2008	19	16	3	0	3	0	0	0	16	0
2009	18	15	3	0	2	0	0	0	16	0
2010	27	23	4	0	4	1	0	0	21	0

CIS B.S. students.

Year	Enrolled	Male	Female	Ethnicity Unknown	Black	Hispanic	Indian/ Alaskan	Asian Pacific	White	Foreign
2006	131	107	24	17	10	1	1	1	97	4
2007	144	114	30	13	9	4	3	0	112	3
2008	142	112	30	13	11	2	3	1	111	1
2009	140	115	25	7	13	2	4	3	109	2
2010	101	84	17	2	8	4	3	2	78	2

b) In-state and out-of-state. Age.

CIS A.A.S. students.

Year	Resident	Midwest Compact	Non-Resident	Avg. age
2006	18	0	0	22
2007	9	0	0	20
2008	19	0	0	20
2009	18	0	0	21
2010	26	0	1	22

CIS B.S. students

Year	Resident	Midwest Compact	Non-Resident	Avg. age
2006	127	1	3	26
2007	141	0	3	26
2008	140	0	2	27
2009	137	1	2	27
2010	120	2	3	28

\*CIS B.B. and CIS B.S. students combined.

c) Full-time and part-time.

Full-time and part-time.

CIS A.A.S. students.

Year	Full-time	Part-time
2006	17	1
2007	9	0
2008	19	0
2009	16	2
2010	25	2

CIS B.S. students.

Year	Full-time	Part-time
2006	76	55
2007	82	62
2008	65	77
2009	74	66
2010	50	51

b) Attend classes during the day, in the evenings, and on weekends.

CIS program day, evening, weekend course registrations Fall 2010

Percent of CIS course registrations during the daytime	84%
Percent of CIS course registrations during the evening	16%
Percent of CIS course registrations during the weekends	0%

CIS program day, evening, weekend course registrations Spring 2011

Percent of CIS course registrations during the daytime	89%
Percent of CIS course registrations during the evening	7%
Percent of CIS course registrations during the weekends	4%

Evening classes were defined as classes that began after 5:00 P.M.

Weekend classes were defined as classes that were held on Saturday (no classes are held on Sunday).

c) Enrolled in classes on and off-campus.

Number of CIS A.A.S. students.

Year	On campus	Off campus
2009	18	0
2010	27	0

Number of CIS B.S. students.

Year	On campus	Off campus
2009	78	62
2010	56	45

d) Enrolled in 100% on-line and/or mixed delivery courses.

CIS program online or mixed delivery Fall 2010	Course Registrations	Percent of all CIS course registrations
	150	14%

CIS program online or mixed delivery Spring 2011	Course Registrations	Percent of all CIS course registrations
	214	21%

The following tables indicate how many students are taking only online classes.

CIS A.A.S. students.

Year	Online
2009	0
2010	0

CIS B.S. students.

Year	Online
2009	0
2010	0

e) Discuss how the information presented in (a) through (f) impacts the curriculum, scheduling, and/or delivery methods in the program.

By far, the greatest enrollment is in daytime traditional classes. There is an increase in the number of courses that are taken online, although at this time, there are no students in either the A.A.S. or B.S. program who are taking all their courses online. Blended courses are helping to alleviate some of the burden of having faculty travel to off-campus locations by allowing students to do some of their assignments online.

2) Quality of Students.

- a) What is the range and average GPA of all students currently enrolled in the program? ACT? Comment on this data.

CIS A.A.S. students.

Year	FSU GPA	ACT
2005-2006	2.70	19.20
2006-2007	3.01	19.11
2007-2008	2.80	20.18
2008-2009	2.56	20.81
2009-2010	2.63	21.00

CIS B.S. students.

Year	FSU GPA	ACT
2005-2006	3.13	20.54
2006-2007	3.20	22.26
2007-2008	3.29	21.23
2008-2009	3.44	21.15
2009-2010	3.42	22.29

- b) What are the range and average GPA's of students graduating from the program? ACT? Comment on this data.

Graduating CIS A.A.S. students.

Year	FSU GPA	ACT
2005-2006	3.54	19.00
2006-2007	2.44	17.00
2007-2008	2.73	22.00
2008-2009	2.24	21.00
2009-2010	2.85	24.50

Graduating CIS B.S. students.

Year	FSU GPA	ACT
2005-2006	3.13	20.54
2006-2007	3.20	22.26
2007-2008	3.29	21.23
2008-2009	3.44	21.15
2009-2010	3.42	22.29

- c) In addition to ACT and GPA, identify and evaluate measures that are used to assess the quality of students entering the program.

The department head and program coordinator evaluate transcripts in order to determine which courses (if any) will transfer into the program. Otherwise, the admissions process is handled by the Admissions Office. While the CIS program does not have any entrance requirements, applicants must meet the minimum university and College of Business requirements for admission.

- d) Identify academic awards (e.g., scholarships or fellowships) students in the program have earned. Comment on the significance of these awards to the program and students.

Several students have been awarded the Fortune / Morlock awards, the AITP scholarships, and the Stephen Edward Martin awards. These awards are based on academic achievement and community involvement. These awards serve to recognize the academic accomplishments of CIS students.

- e) What scholarly/creative activities (e.g., symposium presentations, other presentations or awards) have students in the program participated in? Comment on the significance of these activities to the program and students.

Several CIS students have been awarded the Minnie Marsh awards from the College of Business. In addition, several students have been selected for the College of Business Student Excellence awards. These awards require academic achievement and evidence of leadership and service.

- f) What are other accomplishments of students in the program? Comment on the significance of these accomplishments to the program and students.

CIS student members of the student chapter of the AITP have attended conferences where they have competed successfully in national computer contents. They have also represented FSU well in credential exams. Recent conferences have been held in Orlando, Memphis, and St. Louis. The success of our students in these competitions have provided external validity for the education they receive in our program. Professor Clyde Hardman and Professor Amy Buse have served as advisors to the student chapter of the AITP.

3) Employability of students.

- a) How many graduates have become employed full-time in the field within one year of receiving their degree? Comment on this data.

According to the CIS Employment Survey, approximately 84% of our graduates obtained a full-time position in CIS. We are very pleased to see the high placement



rate of our graduates. It appears our curriculum meets the needs of many employers.

- b) What is the average starting salary of graduates who become employed full-time in the field since inception (for new programs) or the last program review? Compare with regional and national trends.

Approximately 82% of our graduates earn a starting salary between \$30,000 and \$60,000. This figure is competitive with the starting salaries of graduates from similar CIS programs nationally and regionally.

- c) How many graduates have become employed as part-time or temporary workers in the field within one year of receiving their degree? Comment on this data.

Only 1.6% were part-time. The remainder were either employed full-time in CIS, employed full-time outside CIS, or attending college. This indicates that even in a difficult job market, our CIS graduates are highly employable.

- d) Describe the career assistance available to the students. What is student perception of career assistance?

The FSU career services office periodically sponsors career fairs to bring together employers and students. According to the CIS Employment Survey, approximately 40% of the graduates were satisfied or very satisfied with the career assistance they received at Ferris. Most of the remainder were indifferent or did not feel the need to take advantage of the career services at Ferris.

- e) How many graduates continue to be employed in the field? Comment on this data.

Approximately 81% of the graduates remain employed in the field. This indicates that CIS is a viable field within industry and versatile enough to maintain the interest of our graduates.

- f) Describe and comment on the geographic distribution of employed graduates.

A large majority of FSU CIS graduates remain in the state of Michigan (68%). This is a positive outcome, given the significant migration of trained employees away from the state during the current recession.

- g) How many students and/or graduates go on for additional educational training? (Give annual average.) Comment on this data.

Most FSU CIS graduates received additional training after employment (67%). This suggests that the FSU CIS program has been successful in preparing our graduates to learn how to learn.

- h) Where do most students and/or graduates obtain their additional educational training? Comment on this data.

Of the FSU CIS graduates who received training after they were hired, approximately 70% received company training (either on-site or off-site). Interestingly, despite the publicity about proprietary outlets such as DeVry Tech/Keller, ITT, and the University of Phoenix, only 1.3% of the respondents chose those establishments.

**B. ENROLLMENT.**

- 1) What is the anticipated fall enrollment for the program?

We anticipate that the fall enrollment for next year will be approximately the same as it was for Fall 2010.

- 2) Have enrollment and student credit hour production (SCH) increased or decreased since the last program review? Supply a table and comment on any enrollment trends.

CIS A.A.S. student credit hours

Term	Class	On Campus	Off Campus	Online	Total
2009	Freshman	107	0	0	107
	Sophomore	58	0	0	58
	Junior	42	0	0	42
	Senior	30	0	0	30
2010	Freshman	110	0	0	110
	Sophomore	132	0	0	132
	Junior	57	0	0	57
	Senior	47	0	0	47

CIS B.S. student credit hours

Term	Class	On Campus	Off Campus	Online	Total
2009	Freshman	171	0	0	171
	Sophomore	172	9	0	181
	Junior	247	84	0	331
	Senior	432	279	0	711
2010	Freshman	122	0	0	122
	Sophomore	120	15	0	135
	Junior	221	75	0	296
	Senior	445	237	0	682

\*For 2010 the BB degree in CIS and B.S. in CIS were combined by IRT.

- 3) Since the last program review, how many students apply to the program annually?
- 4) Of those who apply, how many and what percentage are admitted?
- 5) Of those who are admitted, how many and what percentage enroll?

Not available.

- 6) What are the program's current enrollment goals, strategy, and efforts to maintain/increase/decrease the number of students in the program? Please explain.

The CIS program would like to gradually increase the number of students in the program. We are active in FSU "Dawg Days," we have developed important relationships with community colleges and tech centers, and we have worked with the Admissions office to update brochures to recruit prospective high school students.

Enrollment in the CIS program is growing slowly. We would like to increase on-campus enrollment further to enable the program to offer more courses. Currently, we are unable to offer many elective courses. We hope to launch surveys that would determine student interests in career related areas.

#### C. PROGRAM CAPACITY

- 1) What is the appropriate program enrollment capacity, given the available faculty, physical resources, funding, accreditation requirements, state and federal regulations, and other factors? Which of these items limits program enrollment capacity? Please explain any difference between capacity and current enrollment.

If we are able to replace the CIS program faculty who retired last year, we should be able to provide education for our current enrollment. In order to increase capacity, the CIS program would need additional computer labs with additional hardware and software.

#### D. RETENTION AND GRADUATION

- 1) Give the annual attrition rate (number and percent of students) in the program.

CIS A.A.S. student retention rate: (provided by IRT).

Entering Term	N		Year 2	Year 3	Year 4	Year 5	Year 6
2005	3						
		% graduated by	0	0	0	33	33
		% Still enrolled in	33	33	33	0	0
		% Persisters	33	33	33	33	33
		% Non-Persisters	67	67	67	67	67

CIS A.A.S. student retention rate:

Entering Term	N		Year 2	Year 3	Year 4	Year 5	Year 6
2006	2						
		% graduated by	0	0	0	0	0
		% Still enrolled in	50	50	50	50	50
		% Persisters	50	50	50	50	50
		% Non-Persisters	50	50	50	50	50
		% Graduated from pgm	0	0	0	0	0
		% Still enrolled in pgm					

CIS A.A.S. student retention rate:

Entering Term	N		Year 2	Year 3	Year 4	Year 5	Year 6
2007	2						
		% graduated by	0	0	0		
		% Still enrolled in	100	0	0		
		% Persisters	100	0	0		
		% Non-Persisters	0	100	100		
		% Graduated from pgm	0	0	0		
		% Still enrolled in pgm					

CIS A.A.S. student retention rate:

Entering Term	N		Year 2	Year 3	Year 4	Year 5	Year 6
2008	6						
		% graduated by	0	0			
		% Still enrolled in	67	50			
		% Persisters	67	50			
		% Non-Persisters	33	50			
		% Graduated from pgm	0	0			
		% Still enrolled in pgm					

CIS A.A.S. student retention rate:

Entering Term	N		Year 2	Year 3	Year 4	Year 5	Year 6
2009	2						
		% graduated by	0				
		% Still enrolled in	50				
		% Persisters	50				
		% Non-Persisters	50				
		% Graduated from pgm	0				
		% Still enrolled in pgm					

CIS B.S. student retention rate:

Entering Term	N		Year 2	Year 3	Year 4	Year 5	Year 6
2005	16						
		% Graduated by	0	0	0	13	38
		% Still Enrolled In	69	50	44	31	6
		% Persisters	69	50	44	44	44
		% Non-Persisters	31	50	56	56	56

CIS B.S. student retention rate:

Entering Term	N		Year 2	Year 3	Year 4	Year 5	Year 6
2006	9						
		% Graduated by	0	0	0	33	
		% Still Enrolled In	78	78	67	34	
		% Persisters	78	78	67	67	
		% Non-Persisters	22	22	33	33	

CIS B.S. student retention rate:

Entering Term	N		Year 2	Year 3	Year 4	Year 5	Year 6
2007	16						
		% Graduated by	0	0	0		
		% Still Enrolled In	50	50	40		
		% Persisters	50	50	40		
		% Non-Persisters	50	50	60		

CIS B.S. student retention rate:

Entering Term	N		Year 2	Year 3	Year 4	Year 5	Year 6
2008	16						
		% Graduated by	0	0			
		% Still Enrolled In	57	43			
		% Persisters	57	43			
		% Non-Persisters	43	57			

- 2) What are the program's current goals, strategy and efforts to retain students in the program?

The CIS faculty is more actively engaged in student advising that it was in the period covered by the last Academic Program Review. Furthermore, CIS students are strongly encouraged to participate in the student chapter of the AITP. Finally, each student is required to complete an internship. These three actions are designed to make students more aware of the relevance of their courses to actual corporate computing requirements.

- 3) Describe and assess trends in number of degrees awarded in the program.

There are only a few students graduating with an A.A.S. degree in CIS. On average, 2 students graduate every year, although the number tends to fluctuate from 1 to 4. There does not appear to be a trend in the number of A.A.S. degrees granted in CIS.

- 4) How many students who enroll in the program graduate from it within the prescribed time? Comment on any trends.

For the A.A.S. degree, approximately one third of the students who enrolled in the program will graduate within 6 years. However, if one extends the timeline to 7 years (technically beyond the beginning period of this particular APR) the graduation rate jumps to roughly half of the students graduating with an A.A.S. degree. This suggests that even though the A.A.S. is only a 2 year degree, many students need an extended period of time to complete that degree.

At the B.S. degree level, approximately 60% of the students graduate within 6 years.

- 5) On average, how long does it take a student to graduate from the program? Please comment.

At the A.A.S. degree level, most students graduate within 7 years. At the B.S. degree level, most students will graduate within 6 years.



## E. ACCESS

- 1) Describe and assess the program's actions to make itself accessible to students. Use examples such as off-site courses, accelerated courses or other types of flexible learning, use of summer courses, multiple program entry points, e-learning, mixed delivery courses, scheduling.

The CIS program currently offers courses off-campus, accelerated courses, fully online as well as blended courses. We also offer courses during the summer semester.

- 2) Discuss what effects the actions described in (1) have had on the program. Use examples such as program visibility, market share, enrollment, faculty load, computer and other resources.

We feel the use of online, blended, and summer courses has made our program more accessible to students who may work full-time or have family obligations. Furthermore, the use of courses offered on the Internet reinforces our technological visibility, market share, enrollment without increasing substantially our computer lab resources. These strategies also help provide full course loads for our faculty.

- 3) How do the actions described in (1) advance or hinder program goals and priorities?

The CIS faculty believe that these strategies help to advance our goal of providing the best technological instruction to a wide variety of students.

## F. CURRICULUM. The curriculum review section must also contain appropriate check sheets and example syllabi, which may be attached as an appendix.

- 1) Program requirements. Describe and assess the program-related courses required for graduation.

CIS majors must take the following CIS courses:

ISYS 110  
ISYS 200  
ISYS 216  
ISYS 288  
ISYS 316  
ISYS 321  
ISYS 325  
ISYS 330  
ISYS 371  
ISYS 391  
ISYS 470  
ISYS 489

In addition, they must take directed electives as indicated on their check sheets.

- a) As part of the graduation requirements of the current program, list directed electives and directed General Education courses. Provide the rationale for these selections.

The directed electives and general education courses are listed on the check sheet and included in Appendix D.

- b) Indicate any hidden prerequisites (instances where, in order to take a program-required course, the student has to take an additional course. Do not include extra courses taken for remedial purposes).

There are no “hidden” prerequisites for our courses.

- 2) Has the program been significantly revised since the last review, and if so, how?

Since the last program review, several major changes have been made.

- ISYS 220 (Introduction to COBOL) was removed as a required course
- ISYS 340 (Advanced COBOL) was deleted
- ISYS 265 (Midrange Online Program Development) was removed as a required course
- ISYS 365 (Advanced RPG) was removed as a required course
- ISYS 288 (Web Application Development) was created
- ISYS 488 (System Design Implementation) was deleted
- ISYS 489 (Web Based System Design Implementation) was added
- ISYS 391 (Internship) was required for all CIS B.S. students
- ISYS 216 (Java Programming) was required for all majors
- ISYS 316 (Advanced Java Programming) was required for all majors
- ISYS 411 (Project Management) was removed from the CIS program
- PROJ 420 (Project Management) was added as a required course in another program

More significantly, the CIS faculty created an entirely new B.S. degree program called Computer Information Technology. This program was designed for students who wanted to concentrate on hardware and computer networks. ??? courses were created and community colleges throughout Michigan were consulted to streamline their articulation agreements with FSU for this program.

- 3) Are there any curricular or program changes currently in the review process? If so, what are they?

The CIS program is currently evaluating the proposed IS 2010 curriculum proposed by the Association for Computing Machinery (ACM) and the Association for Information Systems (AIS). The proposed curriculum appears to eliminate programming as required courses (although institutions may offer programming courses as electives).

- 4) Are there plans to revise the current program within the next three to five years? If so, what plans are envisioned and why?

If the proposed IS 2010 curriculum is adopted by the CIS faculty, then the current course sheet, curriculum map, and TracDat variables would all need to be revised to reflect the changes.

#### G. QUALITY OF INSTRUCTION

- 1) Discuss student and alumni perceptions of the quality of instruction.

CIS students are satisfied with our program, although perceptions increase substantially after graduation and full time employment (as shown in our alumni survey section).

- 2) Discuss advisory committee and employer perceptions of the quality of instruction.

The advisory committee and employers have responded very favorably to our program as shown in the advisory committee and employer survey section of this report.

- 3) What departmental and individual efforts have been made to improve the learning environment, add and use appropriate technology, train and increase the number of undergraduate and graduate assistants, etc.?

Because of its commitment to hands-on learning, the CIS program has kept class sizes small enough for the class professors to interact directly with their students. Consequently, teaching assistants have not been used except for ISYS 105. In ISYS 105, the classes are large and several lab assistants are used for each section. Originally, graduate students from other computer programs were used, however, based on feedback from the students in ISYS 105, several professors decided to use undergraduate upperclassmen who had successfully taken the course. The undergraduate upperclassmen lab assistants appear to be more effective than the graduate students. One reason that FSU undergraduate upperclassmen are more effective is that they have taken the same course with similar text books and similar assignments as the students they are assisting. The master's students usually did not have the same training and their preparation varied dramatically.

- 4) Describe the types of professional development have faculty participated in, in efforts to enhance the learning environment (e.g. Writing Across the Curriculum; Center for Teaching and Learning, etc.) .

All of the faculty in the CIS program have completed training in developing and using FerrisConnect / Blackboard in the Faculty Center for Teaching and Learning (FCTL). In addition, several faculty have participated in other FCTL training seminars.

- 5) What efforts have been made to increase the interaction of students with faculty and peers? Include such items as developmental activities, seminars, workshops, guest lectures, special events, and student participation in the Honors Program Symposium.

CIS faculty have encouraged students to belong to the student chapter of AITP. The AITP holds regular meetings with the organization advisor and co-advisor. The AITP sponsors field trips to employers who have hired CIS graduates in the past. Recently

trips were made to Auto Owners Insurance, Meijer, Compuware, and State Farm Insurance.

The AITP also sponsors picnics, social events, and invites guest speakers from the computer industry.

- 6) Discuss the extent to which current research and practice regarding inclusive pedagogy and curriculum infuse teaching and learning in this program.

Active learning concepts have been applied to our courses.

- 7) What effects have actions described in (5) and (6) had on the quality of teaching and learning in the program?

H. COMPOSITION AND QUALITY OF FACULTY. Describe and assess the composition of the faculty teaching courses in the program.

- 1) List the names of all tenured and tenure-track faculty by rank.
  - a) Identify their rank and qualifications.
  - b) Indicate the number of promotions or merit awards received by program faculty since the last program review.

CIS program faculty rank, qualifications, promotion/merit awards.

Name	Rank	Qualification	Promotion/Merit
James Bandstra	Associate Professor	M.S. in Technology	
Amy Buse	Professor	D.B.A.	Promoted from associate professor to professor.
Jung Choi	Assistant Professor	Ph.D.	
Clyde Hardman	Associate Professor	M.B.A.	
Richard Hewer	Associate Professor	M.B.A.	
Harold Palmer	Professor	D.B.A.	Promoted from associate professor to professor.
Warner Myntti	Associate Professor	M.B.A.	
Andrew Suhy	Professor	Ph.D.	Promoted from associate professor to professor.

- c) Summarize the professional activities of program faculty since inception or the last program review (attendance at professional meetings, poster or platform presentations, responsibilities in professional organizations, etc.).

All of the CIS faculty have attended conferences and belong to professional associations.

2) Workload

- a) What is the normal, annualized teaching load in the program or department? Indicate the basis of what determines a “normal” load. On a semester-by-semester basis, how many faculty have accepted an overload assignment?

CIS faculty teach 24 credit hours per academic year. Most unexpected changes in enrollment are usually handled by the adjunct faculty rather than through overload assignments.

- b) List the activities for which faculty receive release time.

Professor Clyde Hardman receives release time to serve as program coordinator for the CIS and the CIT programs, and to handle the CIS and CIT internships.

3) Recruitment

- a) What is the normal recruiting process for new faculty?

Once the administration has approved a position, the department head and program coordinator work with the Human Resource office and the Affirmative Action representatives to publicize the position and review the applicants.

- b) What qualifications (academic and experiential) are typically required for new faculty?

New faculty members are required to have a doctorate and work experience in their field. This is a requirement of the ACBSP accreditation body.

- b) What are the program's diversity goals for both gender and race/ethnicity in the faculty?

The CIS program embraces the importance of diversity in the workplace. A member of the CIS faculty is a representative on the College of Business diversity committee. Currently, women and ethnic minorities represent 25% of the CIS faculty.

- c) Describe and assess the efforts being made to attain goals in (c).

Whenever a position becomes available, the department head and program coordinator work with the Human Resource and Affirmative Action office to fill the position.

4) Orientation. Describe and assess the orientation process for new faculty.

New faculty are assigned to a tenure committee consisting of 3 tenured faculty. Those faculty are then charged with regular classroom visits, evaluation of the member's portfolio, and providing feedback to the probationary faculty.

5) Reward Structure: e.g., salary, professional development funds, travel funds, UCEL and FSUGR incentive money

a) Describe the reward structure in the program/department/college as it relates to program faculty. Indicate the type of reward and eligibility criteria.

Faculty are eligible to apply for tenure, promotion or a merit increase as indicated in the FFA contract.

b) Does the existing salary structure have an impact on the program's ability to recruit and retain quality faculty?

The current faculty salary structure is approximately \$20,000 below the starting salaries of CIS faculty in other colleges of business. For senior faculty, the gap is approximately \$35,000 below the CIS faculty salaries at other colleges of business.

c) Is the reward structure currently in place adequate to support faculty productivity in teaching, research, and service? If not, what recommendations would you make to correct the situation.

The university needs to adjust CIS faculty salaries to attract and retain faculty.

d) Is enhancing diversity and inclusion a component of the reward structure? Please explain.

The university publically recognizes the work of the Diversity Committee. In addition, the university rewards outstanding minority faculty by bestowing an award in a ceremony in April. The administration also works closely with the Human Resources and Affirmative Action offices in identifying highly qualified candidates.

6) Graduate Instruction (if applicable)

The CIS program does not offer graduate level courses.

7) Non-Tenure-Track and Adjunct Faculty.

a) Please provide a list for the last academic year of full-time non-tenure-track and adjunct faculty who taught courses in the program. For full-time non-tenure track

faculty, indicate the length of their appointments and the number of years of service at the University. Comment on the program's ability to retain non-tenure-track faculty.

Non-tenure track faculty included:

Trudy Borst  
 Vicky Deur  
 Scott Goethals  
 John Herrick  
 George Novotny

Professors Borst, Deur, Goethals, and Herrick have all taught for over 5 years each. In the fall 2010 semester, Professor Novotny was hired for an adjunct position. Prior to that position, he taught in the department as a tenured faculty for over twenty years. We are pleased with the dedication and success of our adjunct faculty as evidenced by their many years of commitment to FSU. This long term commitment has allowed the adjunct faculty to attain a deep familiarity with the courses offered by our program.

- b) What percentage of program courses is taught by the faculty in (a)? What courses are they teaching? Please comment.

Approximately 12% of the course sections have been taught by adjunct faculty, although the actual percentage fluctuates from one semester to the next (due primarily to fluctuations in student enrollment). The courses have been limited to service courses such as ISYS 105 (Microcomputer Applications), ISYS 200 (Database Applications), and ISYS 321 (Business Information Systems).

- c) Describe the required qualifications (academic and experiential) for faculty listed in (a). Indicate if all faculty have met the criteria, and if not, what is being done to resolve the situation?

All tenured and tenure-track faculty meet the criteria. **Faculty vita are listed in Appendix B.**

CIS program faculty rank, academic credentials, and experience.

Name	Rank	Qualification	Experience
James Bandstra	Associate Professor	M.S. in Technology, American University	Worked in IT and higher education prior to FSU
Amy Buse	Professor	D.B.A. Argosy University	Worked in IT and secondary education prior to FSU

Jung Choi	Assistant Professor	Ph.D. University of Texas at Arlington	Worked in IT and higher education prior to FSU
Clyde Hardman	Associate Professor	M.B.A. Grand Valley State University	Worked in IT
Richard Hewer	Associate Professor	M.B.A. Grand Valley State University	Worked in IT
Harold Palmer	Professor	D.B.A. Nova Southeastern University	Worked in IT
Warner Myntti	Associate Professor	M.B.A. Lindenwood College	Worked in IT
Andrew Suhy	Professor	Ph.D. University of Michigan, Ann Arbor	Worked in IT and higher education prior to FSU

- d) Does the program consider the current use of non-tenure-track faculty to be appropriate? Why or why not?

Yes. There is a natural fluctuation in enrollment from semester to semester and from course to course. By utilizing a reasonable proportion of adjunct faculty, we are able to maintain flexibility in our course offerings. Adjunct faculty also provide a valuable service by teaching at off-campus locations. Frequently, adjunct faculty work in industry and are familiar with the local needs of companies at off-campus locations. Non-tenure track faculty have offices in the College of Business and hold office hours on a regular basis. The relationship between tenured faculty and non-tenure track faculty has been excellent.

- e) If the program is accredited, what position if any does the accrediting body have regarding the use of non-tenured and adjunct faculty?

There is a ceiling placed on the use of adjunct faculty by the ACBSP, however, the CIS program is well below that limit.



I. ASSESSMENT AND EVALUATION. *Describe and evaluate the program's assessment mechanisms.*

**Note** - Each program review must be accompanied with a TracDat report that is designed for Program Review that provides information about the results of assessment implementation at the program level. The TracDat system has the APR Report available to all within the university, and this report must be included. Program Review panels may also elect to produce additional TracDat reports that demonstrate the effectiveness of the program.

- 1) List and describe student learning outcomes at the course level.

A list of course numbers, course name, course outcomes and criteria are listed below:

**Course Name:** INTRODUCTION TO MICROCOMPUTER SYSTEMS SOFTWARE

**Course number:** ISYS 105 \_\_\_\_\_ Section (s) \_\_\_\_\_

**Semester:** FALL 2010

**INSTRUCTOR NAME**

<b>COLUMN A</b>	<b>COLUMN B</b>	<b>COLUMN C</b>
<b>OUTCOME 1</b> Students will become proficient in using Microsoft Word	<b>EVALUATION METHOD:</b> TEST	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 2</b> Students will become proficient in using Microsoft Excel	<b>EVALUATION METHOD:</b> TEST	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 3</b> Students will become proficient in using Microsoft PowerPoint	<b>EVALUATION METHOD:</b> TEST	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 4</b> Students will become proficient at integrating Word, Excel, and PowerPoint	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME

**Course Name:** FUNDAMENTALS OF COMPUTER INFORMATION SYSTEMS

**Course number:** ISYS 110 **Section:** \_\_\_\_\_

**Semester:** FALL 2010

**INSTRUCTOR NAME**

<b>COLUMN A</b>	<b>COLUMN B</b>	<b>COLUMN C</b>
<b>OUTCOME 1</b> Students will become proficient in using HTML	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 2</b> Students will become proficient in using computer programming logic	<b>EVALUATION METHOD:</b> TEST	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME

**Course Name:** DATABASE DESIGN AND IMPLEMENTATION

**Course number:** ISYS 200 \_\_\_\_\_ Section (s) \_\_\_\_\_

**Semester:** FALL 2010

**INSTRUCTOR NAME**

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<b>COLUMN A</b>	<b>COLUMN B</b>	<b>COLUMN C</b>
Students will be able to describe the basic concepts, principles and design features of a relational database.	<b>EVALUATION METHOD:</b> TEST	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 2</b> Students will be able to create tables, define data types, create data input rules and define relationships between tables.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 3</b> Students will be able to develop relational database applications that use forms, queries, reports, subforms, subreports, command menus and web publishing.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME

**Course Name:** INTRODUCTION TO VISUAL BASIC

**Course number:** ISYS 204 \_\_\_\_\_ **Section (s)** \_\_\_\_\_

**Semester:** FALL 2010

<b>COLUMN A</b>	<b>COLUMN B</b>	<b>COLUMN C</b>
<b>OUTCOME 1</b> Students will be able to describe the major components of object oriented programming used in Visual Basic.	<b>EVALUATION METHOD:</b> TEST	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 2</b> Students will be able to design Visual Basic applications using current design methods.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 3</b> Students will be able to develop Visual Basic applications which use constants and variables, as well as repetition and selection logic.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME

**Course Name:** INTRODUCTION TO JAVA PROGRAMMING

**Course number:** ISYS 216 \_\_\_\_\_ Section (s) \_\_\_\_\_

**Semester:** FALL 2010

**INSTRUCTOR NAME**

<b>COLUMN A</b>	<b>COLUMN B</b>	<b>COLUMN C</b>
<b>OUTCOME 1</b> Students will be able to prepare programs written in Java.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 2</b> Students will be able to demonstrate knowledge of the Java language and environment.	<b>EVALUATION METHOD:</b> TEST	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 3</b> Students will be able to develop Java applications which use constants and variables, as well as repetition and selection logic.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME

**Course Name:** COBOL PROGRAMMING

**Course number:** ISYS 220 \_\_\_\_\_ **Section (s)** \_\_\_\_\_

**Semester:**

**INSTRUCTOR NAME**

<b>COLUMN A</b>	<b>COLUMN B</b>	<b>COLUMN C</b>
<b>OUTCOME 1</b> Students will be able to edit, compile and execute a basic COBOL program using JCL.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 2</b> Students will be able to perform calculations and format data using COBOL commands.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 3</b> Students will be able to debug JCL as well as COBOL syntax and logic errors.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME

**Course Name:** COBOL PROGRAMMING

**Course number:** ISYS 220 \_\_\_\_\_ **Section (s)** \_\_\_\_\_

**Semester:**

**INSTRUCTOR NAME**

<b>COLUMN A</b>	<b>COLUMN B</b>	<b>COLUMN C</b>
<b>OUTCOME 1</b> Students will be able to edit, compile and execute a basic COBOL program using JCL.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 2</b> Students will be able to perform calculations and format data using COBOL commands.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 3</b> Students will be able to debug JCL as well as COBOL syntax and logic errors.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME

**Course Name:** MIDRANGE SYSTEMS

**Course number:** ISYS 265 \_\_\_\_\_ **Section (s)** \_\_\_\_\_

**Semester:**

**INSTRUCTOR NAME**

<b>COLUMN A</b>	<b>COLUMN B</b>	<b>COLUMN C</b>
<b>OUTCOME 1</b> Students will be able to design and employ the System i facilities to create a display screen	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 2</b> Students will be able to design and employ the RPG language to print a report, update data in a table, and process tables and arrays.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 3</b> Students will be able to design and employ System i facilities to data base tables and various views of these tables.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME



**Course Name:** LINUX NETWORK ADMINISTRATION

**Course number:** ISYS 277 \_\_\_\_\_ Section (s) \_\_\_\_\_

**Semester:**

**INSTRUCTOR NAME**

<b>COLUMN A</b>	<b>COLUMN B</b>	<b>COLUMN C</b>
<b>OUTCOME 1</b> Students will be able to explain the history of Linux, GNU, GPL, and the FSF, and what it means to create software in the open source community including who is involved in the open source community.	<b>EVALUATION METHOD:</b> TEST	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 2</b> Students will be able to install, maintain, and document a Linux server. They will be able to use both the GUI and CMI interfaces.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 3</b> Students will perform entry level system administration tasks such as customizing the shell environment, create users and groups, manage system resources including file permissions, networking services including file and print services, create a new file system, attach to file systems remotely, remotely access the server, and some basic security and intrusion detection.	<b>EVALUATION METHOD:</b> TEST	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME

**Course Name:** WEB APPLICATION DEVELOPMENT

**Course number:** ISYS 288 \_\_\_\_\_ Section (s) \_\_\_\_\_

**Semester:** FALL 2010

**INSTRUCTOR NAME**

<b>COLUMN A</b>	<b>COLUMN B</b>	<b>COLUMN C</b>
<b>OUTCOME 1</b> Students will be able to describe the essential concepts and basic commands associated with web application architecture including web browsers and servers.	<b>EVALUATION METHOD:</b> TEST	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 2</b> Students will be able to construct and validate Web pages using HTML, PHP, and Cascading Style Sheets (CSS).	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 3</b> Students will be able to utilize an integrated development environment (IDE) to construct and deploy a Web application.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 4</b> Students will be able to develop a secure, dynamic, database driven Web application using PHP and MySQL.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME

**Course Name:** SYSTEMS SOFTWARE

**Course number:** ISYS 305 \_\_\_\_\_ Section (s) \_\_\_\_\_

**Semester:** FALL 2010

**INSTRUCTOR NAME**

<b>COLUMN A</b>	<b>COLUMN B</b>	<b>COLUMN C</b>
<b>OUTCOME 1</b> Students will be able to analyze and justify application needs for various businesses including completing a feasibility study.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 2</b> Students will be able to develop evaluation tools to complete an analysis of software products to meet the needs of a business.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>Outcome 3</b> Students will be able to describe and develop implementation process for installation of new software products including installing, configuring, and the development of a training program.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME

<p><b>OUTCOME 4</b> Students will be able to develop a system manual of a company's system configuration and recommend a backup and recovery procedures for the company's system.</p>	<p><b>EVALUATION METHOD:</b> PROJECT</p>	<p><b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>
<p><b>Outcome 5</b> Students will be familiar with various versions of operating systems and popular utility software products.</p>	<p><b>EVALUATION METHOD:</b> PROJECT</p>	<p><b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>

**Course Name:** MICROSOFT NETWORK ADMINISTRATION

**Course number:** ISYS 307 \_\_\_\_\_ **Section (s)** \_\_\_\_\_

**Semester:**

**INSTRUCTOR NAME**

<b>COLUMN A</b>	<b>COLUMN B</b>	<b>COLUMN C</b>
<b>OUTCOME 1</b> Students will be able to define the Microsoft Networking Model and Server capabilities as well as differentiate network protocols and compatibilities.	<b>EVALUATION METHOD:</b> TEST	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 2</b> Students will be able to design, install, configure, and manage, a Microsoft server in a Lab environment. Including server storage, printing, backup, and performance options.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 3</b> Students will be able to configure active directory to manage client accounts, groups, folders, files, and object security including Dfs, disk quotas, and software installation.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME

**Course Name:** ADVANCED JAVA PROGRAMMING

**Course number:** ISYS 316 \_\_\_\_\_ Section (s) \_\_\_\_\_

**Semester:** FALL 2010

**INSTRUCTOR NAME** \_\_\_\_\_

<b>COLUMN A</b>	<b>COLUMN B</b>	<b>COLUMN C</b>
<b>OUTCOME 1</b> Students will be able to describe and employ the classes of Java's Abstract Windows Toolkit in graphical, event-driven Windows programs and applets	<b>EVALUATION METHOD:</b> TEST	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 2</b> Students will be able to identify and use exception handling features in a Java program to both throw and catch exceptions.	<b>EVALUATION METHOD:</b> TEST	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 3</b> Students will be able to describe and use packaged Java classes to write objects to and read objects from a disk file and a Database Management System.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 4</b> Students will be able to identify and apply Java networking features in a client/server program.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME

**Course Name:** BUSINESS INFORMATION SYSTEMS

**Course number:** ISYS 321 **Section** \_\_\_\_\_

**Semester:** FALL 2010

**INSTRUCTOR NAME**

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<b>COLUMN A</b>	<b>COLUMN B</b>	<b>COLUMN C</b>
<b>OUTCOME 1</b> Students will describe the role of information systems in today's business environment	<b>EVALUATION METHOD:</b> TEST	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 2</b> Students will explain how information technology has transformed organizations in business models	<b>EVALUATION METHOD:</b> TEST	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 3</b> Students will identify the components of information technology including database, communications, software and hardware	<b>EVALUATION METHOD:</b> TEST	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 4</b> Students will analyze both ethical and global issues affecting businesses	<b>EVALUATION METHOD:</b> TEST	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME

**Course Name:** NETWORKING ESSENTIALS

**Course number:** ISYS 325 \_\_\_\_\_ **Section (s)** \_\_\_\_\_

**Semester:** FALL 2010

**INSTRUCTOR NAME**

<b>COLUMN A</b>	<b>COLUMN B</b>	<b>COLUMN C</b>
<b>OUTCOME 1</b> Students will be able to identify the hardware associated with networking and how the hardware relates to the OSI model, the networking standards, and the role the hardware plays in sending the signal. It will include the hardware necessary to create various size networks, PAN, CAN, LAN, MAN, and WAN, both wired and wireless.	<b>EVALUATION METHOD:</b> TEST	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 2</b> Students will be able to identify the software required for a device to be connected to a network and how the software fits the OSI model. This will include the OS, client software, various protocols concentrating on TCP/IP, and basic concepts of switching and routing software.	<b>EVALUATION METHOD:</b> TEST	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME



<p><b>OUTCOME 3</b> Students will be able to design, implement, document, and troubleshoot a small peer-to-peer network including installing the OS.</p>	<p><b>EVALUATION METHOD:</b> PROJECT</p>	<p><b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>
<p><b>OUTCOME 4</b> Students will be able to analyze a company's needs/benefits for a network, decide if the network should be peer-to-peer or client/server, design the network to fit their needs, document the network layout, and choose the basic hardware and software components.</p>	<p><b>EVALUATION METHOD:</b> PROJECT</p>	<p><b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>

**Course Name:** BUSINESS INFORMATION SYSTEMS

**Course number:** ISYS 321

**Section** \_\_\_\_\_

**Semester:** FALL 2010

**INSTRUCTOR NAME**

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<b>COLUMN A</b>	<b>COLUMN B</b>	<b>COLUMN C</b>
<b>OUTCOME 1</b> Students will describe the role of information systems in today's business environment	<b>EVALUATION METHOD:</b> TEST	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 2</b> Students will explain how information technology has transformed organizations in business models	<b>EVALUATION METHOD:</b> TEST	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 3</b> Students will identify the components of information technology including database, communications, software and hardware	<b>EVALUATION METHOD:</b> TEST	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 4</b> Students will analyze both ethical and global issues affecting businesses	<b>EVALUATION METHOD:</b> TEST	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME

**Course Name:** NETWORKING ESSENTIALS

**Course number:** ISYS 325 \_\_\_\_\_ Section (s) \_\_\_\_\_

**Semester:** FALL 2010

**INSTRUCTOR NAME** \_\_\_\_\_

<p><b>OUTCOME 1</b> Students will be able to identify the hardware associated with networking and how the hardware relates to the OSI model, the networking standards, and the role the hardware plays in sending the signal. It will include the hardware necessary to create various size networks, PAN, CAN, LAN, MAN, and WAN, both wired and wireless.</p>	<p><b>EVALUATION METHOD:</b> TEST</p>	<p><b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>
<p><b>OUTCOME 2</b> Students will be able to identify the software required for a device to be connected to a network and how the software fits the OSI model. This will include the OS, client software, various protocols concentrating on TCP/IP, and basic concepts of switching and routing software.</p>	<p><b>EVALUATION METHOD:</b> TEST</p>	<p><b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>

<p><b>OUTCOME 3</b> Students will be able to design, implement, document, and troubleshoot a small peer-to-peer network including installing the OS.</p>	<p><b>EVALUATION METHOD:</b> PROJECT</p>	<p><b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>
<p><b>OUTCOME 4</b> Students will be able to analyze a company's needs/benefits for a network, decide if the network should be peer-to-peer or client/server, design the network to fit their needs, document the network layout, and choose the basic hardware and software components.</p>	<p><b>EVALUATION METHOD:</b> PROJECT</p>	<p><b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>

**Course Name:** SYSTEMS ANALYSIS AND DESIGN

**Course number:** ISYS 330 \_\_\_\_\_ Section (s) \_\_\_\_\_

**Semester:** FALL 2010

**INSTRUCTOR NAME** \_\_\_\_\_

<b>COLUMN A</b>	<b>COLUMN B</b>	<b>COLUMN C</b>
<b>OUTCOME 1</b> Demonstrate the skills required to identify and solve an information systems problem using the traditional systems development life cycle as well as object oriented systems design.	<b>EVALUATION METHOD:</b> TEST	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 2</b> Prepare systems documentation documents including; data flow diagrams, data dictionary, entity relationship diagram and systems narratives.	<b>EVALUATION METHOD:</b> TEST	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 3</b> Design a prototype of an information systems problem solution.	<b>EVALUATION METHOD:</b> TEST	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 4</b> Use control functions to ensure data integrity within an information systems problem solution.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME

**Course Name:** ADVANCED DATABASE DESIGN AND IMPLEMENTATION

**Course number:** ISYS 371 \_\_\_\_\_ Section (s) \_\_\_\_\_

**Semester:** FALL 2010

**INSTRUCTOR NAME**

Please enter the data for columns D, E, and F for each outcome.

<b>COLUMN A</b>	<b>COLUMN B</b>	<b>COLUMN C</b>
<b>OUTCOME 1</b> Students will be able to design a relational database using SQL.	<b>EVALUATION METHOD:</b> TEST	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 2</b> Students will be able to implement a relational database that maintains data integrity and using normalization.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 3</b> Students will be able to implement a relational database that is efficient by using indexes.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME

**Course Name:** PROJECT MANAGEMENT

**Course number:** ISYS 411 \_\_\_\_\_ Section (s) \_\_\_\_\_

**Semester:**

**INSTRUCTOR NAME**

<b>COLUMN A</b>	<b>COLUMN B</b>	<b>COLUMN C</b>
<b>OUTCOME 1</b> Students will be able to design RFPs, contract bids, and project estimates	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 2</b> Students will be able to define a project manager's responsibilities, types of contracts, privacy issues, security issues, and applicable legal issues.	<b>EVALUATION METHOD:</b> TEST	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 3</b> Students will be able to implement a project using project management tools such as CPM and Gantt charts.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME

**Course Name:** DATABASE ADMINISTRATION

**Course number:** ISYS 470 \_\_\_\_\_ **Section (s)** \_\_\_\_\_

**Semester:**

**INSTRUCTOR NAME**

<b>COLUMN A</b>	<b>COLUMN B</b>	<b>COLUMN C</b>
<b>OUTCOME 1</b> Students will be able to design and create database tables for a specific application.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 2</b> Students will be able to describe the process of managing database users and their database access.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 3</b> Students will be able to configure client database tools to access a database on the server.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 4</b> Students will be able to create and run SQL scripts to generate reports, display information about the database, and manage security for both DBAs and normal users.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME



**Course Name:** WEB BASED SYSTEM DEVELOPMENT AND IMPLEMENTATION

**Course number:** ISYS 489 \_\_\_\_\_ **Section (s)** \_\_\_\_\_

**Semester:**

**INSTRUCTOR NAME**

<b>COLUMN A</b>	<b>COLUMN B</b>	<b>COLUMN C</b>
<b>OUTCOME 1</b> Implement the systems design specifications formulated in the <u>ISYS 288 &amp; ISYS 330 and ISYS 371</u> classes; Perform an implementation activity schedule that is compliant with project management criteria.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 2</b> Students will be able to write Web programming codes: (input screens; output screens; DB access for Create/Read/Update and Delete) and conduct system integration with deployment and testing.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 3</b> Students will be able to prepare testing scripts and its schedule; conduct detailed program testing.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 4</b> Students will be able to plan and perform post implementation activities.	<b>EVALUATION METHOD:</b> TEST	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME

**Course Name:** CIS INTERNSHIP

**Course number:** ISYS 491 \_\_\_\_\_ **Section (s)** \_\_\_\_\_

**Semester:**

**INSTRUCTOR NAME**

<b>COLUMN A</b>	<b>COLUMN B</b>	<b>COLUMN C</b>
<b>OUTCOME 1</b> Students will submit weekly reports of their internship experiences identifying progress toward meeting learning objectives.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 2</b> Students will submit an essay detailing the work experience in relation to the academic outcomes established at the beginning of the internship.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME
<b>OUTCOME 3</b> Students will complete a report that summarizes the completed proposed project(s) that was identified with an employer at the beginning of the internship.	<b>EVALUATION METHOD:</b> PROJECT	<b>CRITERIA:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME

2)List and describe student learning outcomes at the program level.

Outcome A - Provide the business industry with technology support of business computer systems by designing, developing, implementing, training, and maintaining business applications and networks
Outcome B - Use information systems approach to explore and create business solutions.
Outcome C - Facilitate team work and leadership in management of information systems projects
Outcome D - Apply effective communication skills throughout information systems project life cycle.
Outcome E - Apply application development skills such as object-oriented programming, graphical application development, algorithmic design, and client-server development of business applications.
Outcome F - Apply database design and administration skills such as modeling, construction, triggers, audit controls, security, backups, and repairs of business applications.
Outcome G - Apply evaluation methods to analysis business performances including benchmarking, value chain and value network analysis, and investment performance.
Outcome H - Collaborate in design, develop, and implementation of a complete web based application for a business or organization.

3) Submit a curriculum map and an explanation of how program outcomes are achieved through course curriculum.

The curriculum maps are shown on the following pages:

**Program - Computer Information Systems (B.S.) - Curriculum Map**

Legend: (A) - Program Assessment, (I) - Introduced, (M) - Mastery, (R) - Reinforced

Outcomes	A C C T 20 1	A C C T 20 2	B L A W 32	B U S N 49	C O M M 12 1	C O M M 33 6	E C O N 22	E C O N 22	E N G L 15 0	E N G L 25 0	E N G L 32 5	F I N C 32 2	IS Y S 11 0	IS Y S 20 0	IS Y S 21 6	IS Y S 31 6	IS Y S 32 1	IS Y S 32 5	IS Y S 33 0	IS Y S 37 1	IS Y S 41 1	IS Y S 47 0	IS Y S 48 8	IS Y S 48 9	IS Y S 49 1	M A T H 11 5	M G M T 30 1	M G M T 37 0	M K T G 32 1	P H I L 21 6	P H I L 21 7	STQM 260				
Outcome A													I	I	R	A	I	I	I	I	I	I	I	I	A	M	R									
Outcome B																									R	A	M	R								
Outcome C																		I	I	R		R	R	R	A	R										
Outcome D					I	I			I	R	R						R	R	R	R	R	R	R	R	A	R										
Outcome E													I		I	R		I	R	I	R		R	R	A	R										
Outcome F														I				I	R	I	R		R	R	A	M	R									
Outcome G																		I				R	I	R	A	M	R									
Outcome I														I					I	R				R	A	M	R									
Outcome H														I					I	R				R	A	M	R									

# Program - Computer Information Systems (A.A.S.) - Curriculum Map

Legend: (A) - Program Assessment, (I) - Introduced, (M) - Mastery, (R) - Reinforced

Outcomes	ACCT 201	BLAW 321	CITS 150	CITS 160	CITS 250	CITS 255	CITS 260	CITS 270	CITS 280	CITS 291	COMM 121	ECON 221	ENGL 150	ENGL 250	ISYS 110	ISYS 200	ISYS 204	ISYS 216	ISYS 288	ISYS 316	MATH 115	MKTG 321	PHIL 216	PHIL 217	STQM 260
Business Computer Systems - Provide business industry with technology support of business computer systems doing programming development, or networking support.								I		A							I	R		M					
Business Analytics - Use organization problem solving information system's methods to provide solutions to business systems.										A							I	R		M					
Business Communications - Apply effective communications skills dealing with business professions in giving system support.										A	R		I	M											

4) Identify how learning outcomes at the course level are measured. Include analysis regarding how well students are meeting course level outcomes.

A four column course assessment report is shown starting on the next page.  
The course outcomes have been met every course except ISYS 110 and ISYS 216.

# Unit Course Assessment Report - Four Column

## Ferris State University

### Z - ISYS Courses

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results
Z - ISYS Courses - ISYS 105 - Intro Micro Systems-Software - Microsoft Word - Students will become proficient in using Microsoft Word <b>Start Date:</b> 01/10/2011 <b>Outcome Status:</b> Active	<b>Assessment Method:</b> Test <b>Assessment Method Category:</b> Test - Internally Developed - Pre/Post or Post <b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME	06/10/2011 - 84% of students met this outcome <b>Classification:</b> Criterion Met <b>Action:</b> 1 - No Action Required <hr/> 04/15/2011 - 87% of students satisfied this outcome <b>Classification:</b> Criterion Met <b>Action:</b> 1 - No Action Required
Z - ISYS Courses - ISYS 105 - Intro Micro Systems-Software - Microsoft Excel - Students will become proficient in using Microsoft Excel <b>Start Date:</b> 01/10/2011 <b>Outcome Status:</b> Active	<b>Assessment Method:</b> Test <b>Assessment Method Category:</b> Test - Internally Developed - Pre/Post or Post <b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME	06/10/2011 - 72% of students met this criterion <b>Classification:</b> Criterion Met <b>Action:</b> 1 - No Action Required <hr/> 04/15/2011 - 75% of students satisfied this outcome <b>Classification:</b> Criterion Met <b>Action:</b> 1 - No Action Required
Z - ISYS Courses - ISYS 105 - Intro Micro Systems-Software - Powerpoint - Students will become proficient in using Microsoft PowerPoint <b>Start Date:</b> 01/10/2011 <b>Outcome Status:</b> Active	<b>Assessment Method:</b> Test <b>Assessment Method Category:</b> Test - Internally Developed - Pre/Post or Post <b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME	06/10/2011 - 82% of students met this criterion <b>Classification:</b> Criterion Met <b>Action:</b> 1 - No Action Required <hr/> 04/15/2011 - 87% of students satisfied this outcome <b>Classification:</b> Criterion Met <b>Action:</b> 1 - No Action Required
Z - ISYS Courses - ISYS 105 - Intro Micro Systems-Software - Integration - Students will become proficient at integrating Word, Excel, and PowerPoint	<b>Assessment Method:</b> Project <b>Assessment Method Category:</b> Project/Model/Invention	06/10/2011 - 83% of students met this criterion <b>Classification:</b> Criterion Met <b>Action:</b>

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results
<b>Start Date:</b> 01/10/2011  <b>Outcome Status:</b> Active	<b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME	1 - No Action Required <hr/> 04/15/2011 - 84% of students satisfied this outcome <b>Classification:</b> Criterion Met <b>Action:</b> 1 - No Action Required
Z - ISYS Courses - ISYS 110 - Fund of Computer Info Systems - HTML - Students will become proficient in using HTML <b>Start Date:</b> 01/10/2011  <b>Outcome Status:</b> Active	<b>Assessment Method:</b> PROJECT <b>Assessment Method Category:</b> Project/Model/Invention <b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME	06/11/2011 - 75% of students met this criterion <b>Classification:</b> Criterion Met <b>Action:</b> 1 - No Action Required <hr/> 04/15/2011 - 79% of students satisfied this outcome <b>Classification:</b> Criterion Met <b>Action:</b> 1 - No Action Required
Z - ISYS Courses - ISYS 110 - Fund of Computer Info Systems - Logic - Students will become proficient in using computer programming logic <b>Start Date:</b> 01/10/2011  <b>Outcome Status:</b> Active	<b>Assessment Method:</b> TEST <b>Assessment Method Category:</b> Test - Internally Developed - Pre/Post or Post <b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME	06/11/2011 - 60% of students met this criterion <b>Classification:</b> Criterion Not Met <b>Action:</b> 2 - Pending Action <hr/> 04/15/2011 - 67% of students satisfied this outcome <b>Classification:</b> Criterion Not Met <b>Action:</b> 2 - Pending Action
Z - ISYS Courses - ISYS 200 - Database Design-Implementation - Relational database - Students will be able to describe the basic concepts, principles and design features of a relational database <b>Start Date:</b> 01/10/2011  <b>Outcome Status:</b> Active	<b>Assessment Method:</b> TEST <b>Assessment Method Category:</b> Test - Internally Developed - Pre/Post or Post <b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME	06/11/2011 - 90% of students met this criterion <b>Classification:</b> Criterion Met <b>Action:</b> 1 - No Action Required <hr/> 04/15/2011 - 90% of students demonstrated competency in this outcome <b>Classification:</b> Criterion Met <b>Action:</b> 1 - No Action Required



Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results
<p>Z - ISYS Courses - ISYS 200 - Database Design-Implementation - Tables - Students will be able to create tables, define data types, create data input rules and define relationships between tables.</p> <p><b>Start Date:</b> 01/10/2011</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> PROJECT</p> <p><b>Assessment Method Category:</b> Project/Model/Invention</p> <p><b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>	<p>06/11/2011 - 88% of students met this criterion</p> <p><b>Classification:</b> Criterion Met</p> <p><b>Action:</b> 1 - No Action Required</p> <hr/> <p>04/15/2011 - 90% of students demonstrated competency in this outcome</p> <p><b>Classification:</b> Criterion Met</p> <p><b>Action:</b> 1 - No Action Required</p>
<p>Z - ISYS Courses - ISYS 200 - Database Design-Implementation - Database Applications - Students will be able to develop relational database applications that use forms, queries, reports, subforms, subreports, command menus and web publishing</p> <p><b>Start Date:</b> 01/10/2011</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> PROJECT</p> <p><b>Assessment Method Category:</b> Project/Model/Invention</p> <p><b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>	<p>06/11/2011 - 88% of students met this criterion</p> <p><b>Classification:</b> Criterion Met</p> <p><b>Action:</b> 1 - No Action Required</p> <hr/> <p>04/15/2011 - 90% of students demonstrated competency in this outcome</p> <p><b>Classification:</b> Criterion Met</p> <p><b>Action:</b> 1 - No Action Required</p>
<p>Z - ISYS Courses - ISYS 204 - Introduction to Visual Basic - major components - Students will be able to describe the major components of object oriented programming used in Visual Basic.</p> <p><b>Start Date:</b> 01/10/2011</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> TEST</p> <p><b>Assessment Method Category:</b> Test - Internally Developed - Pre/Post or Post</p> <p><b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>	<p>04/15/2011 - 90% of students demonstrated competency in this outcome</p> <p><b>Classification:</b> Criterion Met</p> <p><b>Action:</b> 1 - No Action Required</p>
<p>Z - ISYS Courses - ISYS 204 - Introduction to Visual Basic - Design Applications - Students will be able to design Visual Basic applications using current design methods.</p> <p><b>Start Date:</b> 01/10/2011</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> PROJECT</p> <p><b>Assessment Method Category:</b> Project/Model/Invention</p> <p><b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>	<p>04/15/2011 - 80% of students demonstrated competency in this outcome</p> <p><b>Classification:</b> Criterion Met</p> <p><b>Action:</b> 1 - No Action Required</p>
<p>Z - ISYS Courses - ISYS 204 - Introduction to Visual Basic - Applications - Students will be</p>	<p><b>Assessment Method:</b> PROJECT</p>	<p>04/15/2011 - 90% of students demonstrated competency in this outcome</p>

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results
<p>able to develop Visual Basic applications which use constants and variables, as well as repetition and selection logic.</p> <p><b>Start Date:</b> 01/10/2011</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method Category:</b> Project/Model/Invention</p> <p><b>Criterion for Success:</b> At Least 70% of students will exhibit competency in this outcome.</p>	<p><b>Classification:</b> Criterion Met</p> <p><b>Action:</b> 1 - No Action Required</p>
<p>Z - ISYS Courses - ISYS 216 - Intro to Java Programming - Prepare Java programs - Students will be able to prepare programs written in Java.</p> <p><b>Start Date:</b> 01/10/2011</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> PROJECT</p> <p><b>Assessment Method Category:</b> Project/Model/Invention</p> <p><b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>	<p>06/11/2011 - 82% of students met this criterion</p> <p><b>Classification:</b> Criterion Met</p> <p><b>Action:</b> 1 - No Action Required</p> <hr/> <p>04/15/2011 - 76% of students satisfied this outcome</p> <p><b>Classification:</b> Criterion Met</p> <p><b>Action:</b> 1 - No Action Required</p>
<p>Z - ISYS Courses - ISYS 216 - Intro to Java Programming - Java Language - Students will be able to demonstrate knowledge of the Java language and environment.</p> <p><b>Start Date:</b> 01/10/2011</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> TEST</p> <p><b>Assessment Method Category:</b> Test - Internally Developed - Pre/Post or Post</p> <p><b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>	<p>06/11/2011 - 88% of students met this criterion</p> <p><b>Classification:</b> Criterion Met</p> <p><b>Action:</b> 1 - No Action Required</p> <hr/> <p>04/15/2011 - 32% of students satisfied this outcome</p> <p><b>Classification:</b> Criterion Not Met</p> <p><b>Action:</b> 2 - Pending Action</p>
<p>Z - ISYS Courses - ISYS 216 - Intro to Java Programming - Develop Java Applications - Students will be able to develop Java applications which use constants and variables, as well as repetition and selection logic.</p> <p><b>Start Date:</b> 01/10/2011</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> PROJECT</p> <p><b>Assessment Method Category:</b> Project/Model/Invention</p> <p><b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>	<p>06/11/2011 - 76% of students met this criterion</p> <p><b>Classification:</b> Criterion Met</p> <p><b>Action:</b> 1 - No Action Required</p> <hr/> <p>04/15/2011 - 52% of students satisfied this outcome</p> <p><b>Classification:</b> Criterion Not Met</p> <p><b>Action:</b> 2 - Pending Action</p>

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results
<p>Z - ISYS Courses - ISYS 277 - Linux Network Administration - Open source community - Students will be able to explain the history of Linux, GNU, GPL, and the FSF, and what it means to create software in the open source community including who is involved in the open source community.</p> <p><b>Start Date:</b> 01/10/2011</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> TEST</p> <p><b>Assessment Method Category:</b> Test - Internally Developed - Pre/Post or Post</p> <p><b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>	
<p>Z - ISYS Courses - ISYS 277 - Linux Network Administration - Linux server - Students will be able to install, maintain, and document a Linux server. They will be able to use both the GUI and CMI interfaces.</p> <p><b>Start Date:</b> 01/10/2011</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> PROJECT</p> <p><b>Assessment Method Category:</b> Project/Model/Invention</p> <p><b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>	
<p>Z - ISYS Courses - ISYS 288 - Web Application Development - Concepts and Commands - Students will be able to describe the essential concepts and basic commands associated with web application architecture including web browsers and servers.</p> <p><b>Start Date:</b> 01/10/2011</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> TEST</p> <p><b>Assessment Method Category:</b> Test - Internally Developed - Pre/Post or Post</p> <p><b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>	<p>06/11/2011 - 75% of students met this criterion</p> <p><b>Classification:</b> Criterion Met</p> <p><b>Action:</b> 1 - No Action Required</p> <hr/> <p>04/15/2011 - 79% of students satisfied this outcome</p> <p><b>Classification:</b> Criterion Met</p> <p><b>Action:</b> 1 - No Action Required</p>
<p>Z - ISYS Courses - ISYS 288 - Web Application Development - Construct and Validate - Students will be able to construct and validate Web pages using HTML, PHP, and Cascading Style Sheets (CSS).</p> <p><b>Start Date:</b> 01/10/2011</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> PROJECT</p> <p><b>Assessment Method Category:</b> Project/Model/Invention</p> <p><b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>	<p>06/11/2011 - 75% of students met this criterion</p> <p><b>Classification:</b> Criterion Met</p> <p><b>Action:</b> 1 - No Action Required</p> <hr/> <p>04/15/2011 - 76% of students satisfied this outcome</p> <p><b>Classification:</b> Criterion Met</p> <p><b>Action:</b> 1 - No Action Required</p>

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results
<p>Z - ISYS Courses - ISYS 288 - Web Application Development - Construct and Deploy Web application - Students will be able to utilize an integrated development environment (IDE) to construct and deploy a Web application.</p> <p><b>Start Date:</b> 01/10/2011</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> PROJECT</p> <p><b>Assessment Method Category:</b> Project/Model/Invention</p> <p><b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>	<p>06/11/2011 - 81% of students met this criterion</p> <p><b>Classification:</b> Criterion Met</p> <p><b>Action:</b> 1 - No Action Required</p> <hr/> <p>04/15/2011 - 82% of students satisfied this outcome</p> <p><b>Classification:</b> Criterion Met</p> <p><b>Action:</b> 1 - No Action Required</p>
<p>Z - ISYS Courses - ISYS 288 - Web Application Development - Database driven Web application - Students will be able to develop a secure, dynamic, database driven Web application using PHP and MySQL.</p> <p><b>Start Date:</b> 01/10/2011</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> PROJECT</p> <p><b>Assessment Method Category:</b> Project/Model/Invention</p> <p><b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>	<p>06/11/2011 - 75% of students met this criterion</p> <p><b>Classification:</b> Criterion Met</p> <p><b>Action:</b> 1 - No Action Required</p> <hr/> <p>04/15/2011 - 79% of students satisfied this outcome</p> <p><b>Classification:</b> Criterion Met</p> <p><b>Action:</b> 1 - No Action Required</p>
<p>Z - ISYS Courses - ISYS 305 - Software Systems - Application needs - Students will be able to analyze and justify application needs for various businesses including completing a feasibility study.</p> <p><b>Start Date:</b> 01/10/2011</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> PROJECT</p> <p><b>Assessment Method Category:</b> Project/Model/Invention</p> <p><b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>	
<p>Z - ISYS Courses - ISYS 305 - Software Systems - Develop Evaluation Tools - Students will be able to develop evaluation tools to complete an analysis of software products to meet the needs of a business.</p> <p><b>Start Date:</b> 01/10/2011</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> PROJECT</p> <p><b>Assessment Method Category:</b> Project/Model/Invention</p> <p><b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>	
<p>Z - ISYS Courses - ISYS 305 - Software Systems - Implementation Process -</p>	<p><b>Assessment Method:</b> PROJECT</p>	

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results
<p>Students will be able to describe and develop implementation process for installation of new software products including installing, configuring, and the development of a training program.</p> <p><b>Start Date:</b> 01/10/2011</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method Category:</b> Project/Model/Invention</p> <p><b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>	
<p>Z - ISYS Courses - ISYS 307 - MS Network Administration - Define and Differentiate - Students will be able to define the Microsoft Networking Model and Server capabilities as well as differentiate network protocols and compatibilities</p> <p><b>Start Date:</b> 01/10/2011</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> TEST</p> <p><b>Assessment Method Category:</b> Test - Internally Developed - Pre/Post or Post</p> <p><b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>	
<p>Z - ISYS Courses - ISYS 307 - MS Network Administration - Microsoft server - Students will be able to design, install, configure, and manage, a Microsoft server in a Lab environment. Including server storage, printing, backup, and performance options.</p> <p><b>Start Date:</b> 01/10/2011</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> PROJECT</p> <p><b>Assessment Method Category:</b> Project/Model/Invention</p> <p><b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>	
<p>Z - ISYS Courses - ISYS 307 - MS Network Administration - Active directory - Students will be able to configure active directory to manage client accounts, groups, folders, files, and object security including Dfs, disk quotas, and software installation.</p> <p><b>Start Date:</b> 01/10/2011</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> PROJECT</p> <p><b>Assessment Method Category:</b> Project/Model/Invention</p> <p><b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>	
<p>Z - ISYS Courses - ISYS 316 - Advanced Java Programming - Java Toolkit - Students will be able to describe and employ the classes of Java's Abstract Windows Toolkit in graphical, event-driven Windows programs and applets</p> <p><b>Start Date:</b> 01/10/2011</p> <p><b>Outcome Status:</b></p>	<p><b>Assessment Method:</b> TEST</p> <p><b>Assessment Method Category:</b> Test - Internally Developed - Pre/Post or Post</p> <p><b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>	<p>06/11/2011 - 74% of students met this criterion</p> <p><b>Classification:</b> Criterion Met</p> <p><b>Action:</b> 1 - No Action Required</p> <hr/> <p>04/15/2011 - 75% of students satisfied this outcome</p> <p><b>Classification:</b> Criterion Met</p>

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results
Active		<b>Action:</b> 1 - No Action Required
Z - ISYS Courses - ISYS 316 - Advanced Java Programming - Exception handling features - Students will be able to identify and use exception handling features in a Java program to both throw and catch exceptions. <b>Start Date:</b> 01/10/2011 <b>Outcome Status:</b> Active	<b>Assessment Method:</b> TEST <b>Assessment Method Category:</b> Test - Internally Developed - Pre/Post or Post <b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME	06/11/2011 - 63% of students met this criterion <b>Classification:</b> Criterion Not Met <b>Action:</b> 2 - Pending Action <hr/> 04/15/2011 - 83% of students satisfied this outcome <b>Classification:</b> Criterion Met <b>Action:</b> 1 - No Action Required
Z - ISYS Courses - ISYS 316 - Advanced Java Programming - Packaged Java classes - Students will be able to describe and use packaged Java classes to write objects to and read objects from a disk file and a Database Management System. <b>Start Date:</b> 01/10/2011 <b>Outcome Status:</b> Active	<b>Assessment Method:</b> PROJECT <b>Assessment Method Category:</b> Project/Model/Invention <b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME	06/11/2011 - 0% of students met this criterion <b>Classification:</b> Criterion Met <b>Action:</b> 2 - Pending Action <hr/> 04/15/2011 - 67% of students satisfied this outcome <b>Classification:</b> Criterion Not Met <b>Action:</b> 1 - No Action Required
Z - ISYS Courses - ISYS 316 - Advanced Java Programming - Java Networking features - Students will be able to identify and apply Java networking features in a client/server program. <b>Start Date:</b> 01/10/2011 <b>Outcome Status:</b> Active	<b>Assessment Method:</b> PROJECT <b>Assessment Method Category:</b> Project/Model/Invention <b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME	06/11/2011 - 63% of students met this criterion <b>Classification:</b> Criterion Not Met <b>Action:</b> 2 - Pending Action <hr/> 04/15/2011 - 76% of students satisfied this outcome <b>Classification:</b> Criterion Met <b>Action:</b> 1 - No Action Required
Z - ISYS Courses - ISYS 321 - Business Information Systems - Information Systems Role - Students will describe the role of information systems in today's business environment	<b>Assessment Method:</b> TEST <b>Assessment Method Category:</b> Test - Internally Developed - Pre/Post or Post	06/11/2011 - 93% of students met this criterion <b>Classification:</b> Criterion Met <b>Action:</b>

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results
<b>Start Date:</b> 01/10/2011  <b>Outcome Status:</b> Active	<b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME	1 - No Action Required <hr/> 04/15/2011 - 73% of students satisfied this outcome <b>Classification:</b> Criterion Met <b>Action:</b> 1 - No Action Required
Z - ISYS Courses - ISYS 321 - Business Information Systems - Business Models - Students will explain how information technology has transformed organizations in business models  <b>Start Date:</b> 01/10/2011  <b>Outcome Status:</b> Active	<b>Assessment Method:</b> TEST <b>Assessment Method Category:</b> Test - Internally Developed - Pre/Post or Post  <b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME	06/11/2011 - 92% of students met this criterion <b>Classification:</b> Criterion Met <b>Action:</b> 1 - No Action Required <hr/> 04/15/2011 - 70% of students satisfied this outcome <b>Classification:</b> Criterion Met <b>Action:</b> 1 - No Action Required
Z - ISYS Courses - ISYS 321 - Business Information Systems - Components of Information Systems - Students will identify the components of information technology including database, communications, software and hardware  <b>Start Date:</b> 01/10/2011  <b>Outcome Status:</b> Active	<b>Assessment Method:</b> TEST <b>Assessment Method Category:</b> Test - Internally Developed - Pre/Post or Post  <b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME	06/11/2011 - 93% of students met this criterion <b>Classification:</b> Criterion Met <b>Action:</b> 1 - No Action Required <hr/> 04/15/2011 - 75% of students satisfied this outcome <b>Classification:</b> Criterion Met <b>Action:</b> 1 - No Action Required
Z - ISYS Courses - ISYS 321 - Business Information Systems - Globalization - Within an information systems context, students will demonstrate an understanding of how globalization impacts the business environment.  <b>Start Date:</b> 12/10/2010  <b>Outcome Status:</b> Active	<b>Assessment Method:</b> Exam <b>Assessment Method Category:</b> Test - Internally Developed - Pre/Post or Post  <b>Criterion for Success:</b> At least 70% of the students will demonstrate proficiency in this area.	06/11/2011 - 93% of students met this criterion <b>Classification:</b> Criterion Met <b>Action:</b> 1 - No Action Required <hr/> 04/15/2011 - 70% of students satisfied this outcome <b>Classification:</b> Criterion Met <b>Action:</b> 1 - No Action Required

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results
<p>Z - ISYS Courses - ISYS 321 - Business Information Systems - Ethics - Within an information systems context, students will demonstrate how ethical practices impact business activities.</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> Exam</p> <p><b>Criterion for Success:</b> At least 70% of the students will show proficiency in this area.</p>	<p>04/15/2011 - 70% of students satisfied this outcome</p> <p><b>Classification:</b> Criterion Met</p> <p><b>Action:</b> 1 - No Action Required</p> <hr/> <p>04/15/2011 - 70% of students satisfied this outcome</p> <p><b>Classification:</b> Criterion Met</p> <p><b>Action:</b> 1 - No Action Required</p>
<p>Z - ISYS Courses - ISYS 325 - Networking Essentials - Hardware - Students will be able to identify the hardware associated with networking and how the hardware relates to the OSI model, the networking standards, and the role the hardware plays in sending the signal. It will include the hardware necessary to create various size networks, PAN, CAN, LAN, MAN, and WAN, both wired and wireless</p> <p><b>Start Date:</b> 01/10/2011</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> TEST</p> <p><b>Assessment Method Category:</b> Test - Internally Developed - Pre/Post or Post</p> <p><b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>	
<p>Z - ISYS Courses - ISYS 325 - Networking Essentials - Software - Students will be able to identify the software required for a device to be connected to a network and how the software fits the OSI model. This will include the OS, client software, various protocols concentrating on TCP/IP, and basic concepts of switching and routing software.</p> <p><b>Start Date:</b> 01/10/2011</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> TEST</p> <p><b>Assessment Method Category:</b> Test - Internally Developed - Pre/Post or Post</p> <p><b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>	
<p>Z - ISYS Courses - ISYS 325 - Networking Essentials - Peer to Peer Network - Students will be able to design, implement, document, and troubleshoot a small peer-to-peer network including installing the OS</p> <p><b>Start Date:</b></p>	<p><b>Assessment Method:</b> PROJECT</p> <p><b>Assessment Method Category:</b> Project/Model/Invention</p> <p><b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT</p>	



Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results
01/10/2011 <b>Outcome Status:</b> Active	COMPETENCY IN THIS OUTCOME	
Z - ISYS Courses - ISYS 325 - Networking Essentials - Network Analysis - Students will be able to analyze a company's needs/benefits for a network, decide if the network should be peer-to-peer or client/server, design the network to fit their needs, document the network layout, and choose the basic hardware and software <b>Start Date:</b> 01/10/2011 <b>Outcome Status:</b> Active	<b>Assessment Method:</b> PROJECT <b>Assessment Method Category:</b> Project/Model/Invention <b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME	
Z - ISYS Courses - ISYS 330 - Systems Analysis and Design - Solve IS problem - Demonstrate the skills required to identify and solve an information systems problem using the traditional systems development life cycle as well as object oriented systems design. <b>Start Date:</b> 01/10/2011 <b>Outcome Status:</b> Active	<b>Assessment Method:</b> TEST <b>Assessment Method Category:</b> Test - Internally Developed - Pre/Post or Post <b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME	04/15/2011 - 94% of students satisfied this outcome <b>Classification:</b> Criterion Met <b>Action:</b> 1 - No Action Required
Z - ISYS Courses - ISYS 330 - Systems Analysis and Design - Systems Documentation - Prepare systems documentation documents including; data flow diagrams, data dictionary, entity relationship diagram and systems narratives. <b>Start Date:</b> 01/10/2011 <b>Outcome Status:</b> Active	<b>Assessment Method:</b> TEST <b>Assessment Method Category:</b> Test - Internally Developed - Pre/Post or Post <b>Criterion for Success:</b> At least 70% of students will exhibit competency in this outcome.	04/15/2011 - 94% of students satisfied this outcome <b>Classification:</b> Criterion Met <b>Action:</b> 1 - No Action Required
Z - ISYS Courses - ISYS 330 - Systems Analysis and Design - Design prototype - Design a prototype of an information systems problem solution. <b>Start Date:</b> 01/10/2011 <b>Outcome Status:</b> Active	<b>Assessment Method:</b> TEST <b>Assessment Method Category:</b> Test - Internally Developed - Pre/Post or Post <b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME	04/15/2011 - 94% of students satisfied this outcome <b>Classification:</b> Criterion Met <b>Action:</b> 1 - No Action Required

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results
<p>Z - ISYS Courses - ISYS 330 - Systems Analysis and Design - Control functions - Use control functions to ensure data integrity within an information systems problem solution.</p> <p><b>Start Date:</b> 01/10/2011</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> PROJECT</p> <p><b>Assessment Method Category:</b> Project/Model/Invention</p> <p><b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>	<p>04/15/2011 - 94% of students satisfied this outcome</p> <p><b>Classification:</b> Criterion Met</p> <p><b>Action:</b> 1 - No Action Required</p>
<p>Z - ISYS Courses - ISYS 371 - Adv Database Design-Implement - Design - Students will be able to design a relational database using SQL.</p> <p><b>Start Date:</b> 01/10/2011</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> TEST</p> <p><b>Assessment Method Category:</b> Test - Internally Developed - Pre/Post or Post</p> <p><b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>	<p>04/15/2011 - 100% of students satisfied this outcome</p> <p><b>Classification:</b> Criterion Met</p> <p><b>Action:</b> 1 - No Action Required</p>
<p>Z - ISYS Courses - ISYS 371 - Adv Database Design-Implement - Implement using normalization - Students will be able to implement a relational database that maintains data integrity and using normalization.</p> <p><b>Start Date:</b> 01/10/2011</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> PROJECT</p> <p><b>Assessment Method Category:</b> Project/Model/Invention</p> <p><b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>	<p>04/15/2011 - 100% of students satisfied this outcome</p> <p><b>Classification:</b> Criterion Met</p> <p><b>Action:</b> 1 - No Action Required</p>
<p>Z - ISYS Courses - ISYS 371 - Adv Database Design-Implement - Implement using indexes - Students will be able to implement a relational database that is efficient by using indexes.</p> <p><b>Start Date:</b> 01/10/2011</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> PROJECT</p> <p><b>Assessment Method Category:</b> Project/Model/Invention</p> <p><b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>	<p>04/15/2011 - 98% of students satisfied this outcome</p> <p><b>Classification:</b> Criterion Met</p> <p><b>Action:</b> 1 - No Action Required</p>
<p>Z - ISYS Courses - ISYS 411 - Project Management - Design - Students will be able to design RFPs, contract bids, and project estimates</p> <p><b>Start Date:</b> 01/10/2011</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> PROJECT</p> <p><b>Assessment Method Category:</b> Project/Model/Invention</p> <p><b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>	<p>04/15/2011 - 98% of students satisfied this outcome</p> <p><b>Classification:</b> Criterion Met</p> <p><b>Action:</b> 1 - No Action Required</p>

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results
<p>Z - ISYS Courses - ISYS 411 - Project Management - Define - Students will be able to define a project managers responsibilities, types of contracts, privacy issues, security issues, and applicable legal issues.</p> <p><b>Start Date:</b> 01/10/2011</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> TEST</p> <p><b>Assessment Method Category:</b> Test - Internally Developed - Pre/Post or Post</p> <p><b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>	
<p>Z - ISYS Courses - ISYS 411 - Project Management - Implement - Students will be able to implement a project using project management tools such as CPM and Gantt charts.</p> <p><b>Start Date:</b> 01/10/2011</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> PROJECT</p> <p><b>Assessment Method Category:</b> Project/Model/Invention</p> <p><b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>	
<p>Z - ISYS Courses - ISYS 470 - Database Administration - Tables - Students will be able to design and create database tables for a specific application.</p> <p><b>Start Date:</b> 01/10/2011</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> PROJECT</p> <p><b>Assessment Method Category:</b> Project/Model/Invention</p> <p><b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>	<p>06/11/2011 - 100% of students met this criterion</p> <p><b>Classification:</b> Criterion Met</p> <p><b>Action:</b> 1 - No Action Required</p>
<p>Z - ISYS Courses - ISYS 470 - Database Administration - Manage Access - Students will be able to describe the process of managing database users and their database access.</p> <p><b>Start Date:</b> 01/10/2011</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> PROJECT</p> <p><b>Assessment Method Category:</b> Project/Model/Invention</p> <p><b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>	<p>06/11/2011 - 98% of students met this criterion</p> <p><b>Classification:</b> Criterion Met</p> <p><b>Action:</b> 1 - No Action Required</p>
<p>Z - ISYS Courses - ISYS 470 - Database Administration - Configure - Students will be able to configure client database tools to access a database on the server.</p> <p><b>Start Date:</b> 01/10/2011</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> PROJECT</p> <p><b>Assessment Method Category:</b> Project/Model/Invention</p> <p><b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME</p>	<p>06/11/2011 - 98% of students met this criterion</p> <p><b>Classification:</b> Criterion Met</p> <p><b>Action:</b> 1 - No Action Required</p>
<p>Z - ISYS Courses - ISYS 470 - Database</p>		

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results
<b>Outcome Status:</b> Active	proficient in this criterion.	
Z - ISYS Courses - ISYS 491 - CIS Internship - Weekly reports - Students will submit weekly reports of their internship experiences identifying progress toward meeting learning objectives <b>Start Date:</b> 01/10/2011 <b>Outcome Status:</b> Active	<b>Assessment Method:</b> Weekly reports <b>Assessment Method Category:</b> Written Product (essay, research paper, journal, newsletter, etc.) <b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME	04/15/2011 - 100% of students satisfied this outcome <b>Classification:</b> Criterion Met <b>Action:</b> 1 - No Action Required
Z - ISYS Courses - ISYS 491 - CIS Internship - Essay - Students will submit an essay detailing the work experience in relation to the academic outcomes established at the beginning of the internship. <b>Start Date:</b> 01/10/2011 <b>Outcome Status:</b> Active	<b>Assessment Method:</b> Essay <b>Assessment Method Category:</b> Written Product (essay, research paper, journal, newsletter, etc.) <b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME	04/15/2011 - 100% of students satisfied this outcome <b>Classification:</b> Criterion Met <b>Action:</b> 1 - No Action Required
Z - ISYS Courses - ISYS 491 - CIS Internship - Report - Students will complete a report that summarizes the completed proposed project(s) that was identified with an employer at the beginning of the internship. <b>Start Date:</b> 01/10/2011 <b>Outcome Status:</b> Active	<b>Assessment Method:</b> Summary Report of Project <b>Assessment Method Category:</b> Written Product (essay, research paper, journal, newsletter, etc.) <b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME	04/15/2011 - 100% of students satisfied this outcome <b>Classification:</b> Criterion Met <b>Action:</b> 1 - No Action Required
Develop-implem - Testing scripts - students will be able to prepare testing scripts and its schedule; conduct detailed program testing. <b>Start Date:</b> 01/10/2011 <b>Outcome Status:</b> Active	PROJEC I <b>Assessment Method Category:</b> Project/Model/Invention <b>Criterion for Success:</b> AT LEAST 70% OF STUDENTS WILL EXHIBIT COMPETENCY IN THIS OUTCOME	<b>Classification:</b> Criterion Met <b>Action:</b> 1 - No Action Required
Z - ISYS Courses - ISYS 489 - Web-Based Sys Develop-Implem - Post Implementation Activities - Students will plan and perform post-implementation activities. <b>Start Date:</b> 01/10/2011 <b>End Date:</b> 05/06/2011	<b>Assessment Method:</b> Test will be administered near the end of the course. <b>Assessment Method Category:</b> Test - Internally Developed - Pre/Post or Post <b>Criterion for Success:</b> At least 70% of the students will be	

5) Identify how learning outcomes at the program level are measured. Include analysis regarding how well students are meeting program level outcomes.

The program level outcomes are shown on the next page. All the program outcomes have been met.

**Ferris State University**  
**Program - Computer Information Systems (B.S.)**

**Mission Statement:** To provide an outstanding, flexible, supportive learning environment for students preparing for careers in technology.

**Advisory Board/Committee Meetings:** Once per year

**Next FSU Academic Program Review:** 2011-2012

**Accreditation Body:** Accreditation Council for Business Schools and Programs (ACBSP)  
**Academic Year of Next Accreditation Review:** 2011-2012  
**College:** COB

Outcomes	Means of Assessment & Criteria for Success / Tasks	Results
<p>Program - Computer Information Systems (B.S.) - Outcome A - Provide the business industry with technology support of business computer systems by designing, developing, implementing, training, and maintaining business applications and networks.</p> <p><b>Outcome Types:</b> Learning</p> <p><b>Start Date:</b> 09/02/2008</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> In ISYS 288, students will design a web-based application in a team setting, and in ISYS 489, students will develop, document and present this system as a group.</p> <p><b>Assessment Method Category:</b> Case Studies/Problem-based Assignments</p> <p><b>Criterion for Success:</b> Upon completion of ISYS 489, students will perform the following tasks: (1) requirements analysis; (2) systems planning; (3) preliminary design; (4) detailed design; (5) systems resources maximization; (6) formulate systems implementation plan; (7) write systems manual/s.</p> <p>Upon completion of ISYS 489, students will perform the following tasks: (1) implement the system; (2) write program code/s; (3) test the system; (4) write all required documentation; (5) post implementation follow-up; (6) develop techniques an analyst requires in selling the systems design.</p> <p><b>Related Documents:</b> <a href="#">assessment_result_ISYS488 Fall 2009.doc</a></p>	<p>06/19/2009 - see related document (Capstone Results 2008-2009)</p> <p><b>Classification:</b> Criterion Met</p> <p><b>Action:</b> 1 - No Action Required</p> <p><b>Curriculum Change:</b> Does Not Require UCC Approval</p> <p><b>Related Documents:</b> <a href="#">CIS ASSESSMENT 2009. '07.docx</a></p>

Outcomes	Means of Assessment & Criteria for Success / Tasks	Results
<p>Program - Computer Information Systems (B.S.) - Outcome B - Use information systems approach to explore and create business solutions.</p> <p><b>Outcome Types:</b> Learning</p> <p><b>Start Date:</b> 09/02/2008</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> In ISYS 488, students will design a web-based application in a team setting, and in ISYS 489, students will develop, document and present this system as a group.</p> <p><b>Assessment Method Category:</b> Case Studies/Problem-based Assignments</p> <p><b>Criterion for Success:</b> Upon completion of ISYS 488, students will perform the following tasks: (1) requirements analysis; (2) systems planning; (3) preliminary design; (4) detailed design; (5) systems resources maximization; (6) formulate systems implementation plan; (7) write systems manual/s. Upon completion of ISYS 489, students will perform the following tasks: (1) implement the system; (2) write program code/s; (3) test the system; (4) write all required documentation; (5) post implementation follow-up; (6) develop techniques an analyst requires in selling the systems design.</p> <hr/> <p><b>Assessment Method:</b> In ISYS 288, students will design a web-based application in a team setting, and in ISYS 489, students will develop, document and present this system as a group.</p> <p><b>Assessment Method Category:</b> Case Studies/Problem-based Assignments</p> <p><b>Criterion for Success:</b> Upon completion of ISYS 489, students will perform the following tasks: (1) requirements analysis; (2) systems planning; (3) preliminary design; (4) detailed design; (5) systems resources maximization; (6) formulate systems implementation plan; (7) write systems manual/s.</p> <p>Upon completion of ISYS 489, students will</p>	<p>06/19/2009 - see related document (Capston results 2008-2009)</p> <p><b>Classification:</b> Criterion Met</p> <p><b>Action:</b> 1 - No Action Required</p> <p><b>Related Documents:</b> <a href="#">CIS ASSESSMENT 2009. '07.docx</a></p>

Outcomes	Means of Assessment & Criteria for Success / Tasks	Results
	<p>perform the following tasks: (1) implement the system; (2) write program code/s; (3) test the system; (4) write all required documentation; (5) post implementation follow-up; (6) develop techniques an analyst requires in selling the systems design.</p>	
<p>Program - Computer Information Systems (B.S.) - Outcome C - Facilitate team work and leadership in management of information systems projects.</p> <p><b>Outcome Types:</b> Learning</p> <p><b>Start Date:</b> 09/02/2008</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> In ISYS 488, students will design a web-based application in a team setting, and in ISYS 489, students will develop, document and present this system as a group.</p> <p><b>Assessment Method Category:</b> Case Studies/Problem-based Assignments</p> <p><b>Criterion for Success:</b> Upon completion of ISYS 488, students will perform the following tasks: (1) requirements analysis; (2) systems planning; (3) preliminary design; (4) detailed design; (5) systems resources maximization; (6) formulate systems implementation plan; (7) write systems manual/s. Upon completion of ISYS 489, students will perform the following tasks: (1) implement the system; (2) write program code/s; (3) test the system; (4) write all required documentation; (5) post implementation follow-up; (6) develop techniques an analyst requires in selling the systems design.</p> <hr/> <p><b>Assessment Method:</b> In ISYS 288, students will design a web-based application in a team setting, and in ISYS 489, students will develop, document and present this system as a group.</p> <p><b>Assessment Method Category:</b> Case Studies/Problem-based Assignments</p> <p><b>Criterion for Success:</b> Upon completion of ISYS 489, students will perform the following tasks: (1)</p>	<p>06/19/2009 - see related document (Capston results 2008-2009)</p> <p><b>Classification:</b> Criterion Met</p> <p><b>Action:</b> 1 - No Action Required</p> <p><b>Related Documents:</b> <a href="#">CIS ASSESSMENT 2009. '07.docx</a></p>



Outcomes	Means of Assessment & Criteria for Success / Tasks	Results
	<p>requirements analysis; (2) systems planning; (3) preliminary design; (4) detailed design; (5) systems resources maximization; (6) formulate systems implementation plan; (7) write systems manual/s.</p> <p>Upon completion of ISYS 489, students will perform the following tasks: (1) implement the system; (2) write program code/s; (3) test the system; (4) write all required documentation; (5) post implementation follow-up; (6) develop techniques an analyst requires in selling the systems design.</p>	
<p>Program - Computer Information Systems (B.S.) - Outcome D - Apply effective communication skills throughout information systems project life cycle.</p> <p><b>Outcome Types:</b> Learning</p> <p><b>Start Date:</b> 09/02/2008</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> In ISYS 488, students will design a web-based application in a team setting, and in ISYS 489, students will develop, document and present this system as a group.</p> <p><b>Assessment Method Category:</b> Case Studies/Problem-based Assignments</p> <p><b>Criterion for Success:</b> Upon completion of ISYS 488, students will perform the following tasks: (1) requirements analysis; (2) systems planning; (3) preliminary design; (4) detailed design; (5) systems resources maximization; (6) formulate systems implementation plan; (7) write systems manual/s. Upon completion of ISYS 489, students will perform the following tasks: (1) implement the system; (2) write program code/s; (3) test the system; (4) write all required documentation; (5) post implementation follow-up; (6) develop techniques an analyst requires in selling the systems design.</p> <p><b>Assessment Method:</b> In ISYS 288, students will design a web-based application in a team setting, and in</p>	

Outcomes	Means of Assessment & Criteria for Success / Tasks	Results
	<p>ISYS 489, students will develop, document and present this system as a group.</p> <p><b>Assessment Method Category:</b> Case Studies/Problem-based Assignments</p> <p><b>Criterion for Success:</b> Upon completion of ISYS 489, students will perform the following tasks: (1) requirements analysis; (2) systems planning; (3) preliminary design; (4) detailed design; (5) systems resources maximization; (6) formulate systems implementation plan; (7) write systems manual/s.</p> <p>Upon completion of ISYS 489, students will perform the following tasks: (1) implement the system; (2) write program code/s; (3) test the system; (4) write all required documentation; (5) post implementation follow-up; (6) develop techniques an analyst requires in selling the systems design.</p>	
<p>Program - Computer Information Systems (B.S.) - Outcome E - Apply application development skills such as object-oriented programming, graphical application development, algorithmic design, and client-server development of business applications.</p> <p><b>Outcome Types:</b> Learning</p> <p><b>Start Date:</b> 09/02/2008</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> In ISYS 488, students will design a web-based application in a team setting, and in ISYS 489, students will develop, document and present this system as a group.</p> <p><b>Assessment Method Category:</b> Case Studies/Problem-based Assignments</p> <p><b>Criterion for Success:</b> Upon completion of ISYS 488, students will perform: a preliminary systems design (use of modeling techniques; develop skills in object-oriented design methodologies); detailed system design (design user interface input and output design; design process methods; design data structures). Upon completion of ISYS 489, students will: write program code/s: (code input screens; output screens; individual programs, and system integration programs with data</p>	

Outcomes	Means of Assessment & Criteria for Success / Tasks	Results
	<p>structures; package the system; test the system (prepare test plan and test schedule; conduct detailed program testing).</p> <p><b>Assessment Method:</b> In ISYS 288, students will design a web-based application in a team setting, and in ISYS 489, students will develop, document and present this system as a group.</p> <p><b>Assessment Method Category:</b> Case Studies/Problem-based Assignments</p> <p><b>Criterion for Success:</b> Upon completion of ISYS 489, students will perform the following tasks: (1) requirements analysis; (2) systems planning; (3) preliminary design; (4) detailed design; (5) systems resources maximization; (6) formulate systems implementation plan; (7) write systems manual/s.</p> <p>Upon completion of ISYS 489, students will perform the following tasks: (1) implement the system; (2) write program code/s; (3) test the system; (4) write all required documentation; (5) post implementation follow-up; (6) develop techniques an analyst requires in selling the systems design.</p>	
<p>Program - Computer Information Systems (B.S.) - Outcome F - Apply database design and administration skills such as modeling, construction, triggers, audit controls, security, backups, and repairs of business applications.</p> <p><b>Outcome Types:</b> Learning</p> <p><b>Start Date:</b> 09/02/2008</p> <p><b>Outcome Status:</b></p>	<p><b>Assessment Method:</b> In ISYS 488, students will design a web-based application in a team setting, and in ISYS 489, students will develop, document and present this system as a group.</p> <p><b>Assessment Method Category:</b> Case Studies/Problem-based Assignments</p> <p><b>Criterion for Success:</b> Upon completion of ISYS 488, students will perform: a preliminary systems design (use of modeling techniques; develop skills in</p>	

Outcomes	Means of Assessment & Criteria for Success / Tasks	Results
Active	<p>object-oriented design methodologies); detailed system design (design user interface input and output design; design process methods; design data structures); maximization of systems resources (system architecture; file conversion management and techniques; data processing policy and the organization). Upon completion of ISYS 489, students will: write program code/s: (code input screens; output screens; individual programs, and system integration programs with data structures; package the system; test the system (prepare test plan and test schedule; conduct detailed program testing).</p> <p><b>Assessment Method:</b> In ISYS 288, students will design a web-based application in a team setting, and in ISYS 489, students will develop, document and present this system as a group.</p> <p><b>Assessment Method Category:</b> Case Studies/Problem-based Assignments</p> <p><b>Criterion for Success:</b> Upon completion of ISYS 489, students will perform the following tasks: (1) requirements analysis; (2) systems planning; (3) preliminary design; (4) detailed design; (5) systems resources maximization; (6) formulate systems implementation plan; (7) write systems manual/s.</p> <p>Upon completion of ISYS 489, students will perform the following tasks: (1) implement the system; (2) write program code/s; (3) test the system; (4) write all required documentation; (5) post implementation follow-up; (6) develop techniques an analyst requires in selling the systems design.</p>	

Outcomes	Means of Assessment & Criteria for Success / Tasks	Results
<p>Program - Computer Information Systems (B.S.) - Outcome G - Apply evaluation methods to analysis business performances including benchmarking, value chain and value network analysis, and investment performance.</p> <p><b>Outcome Types:</b> Learning</p> <p><b>Start Date:</b> 09/02/2008</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> In ISYS 488, students will design a web-based application in a team setting, and in ISYS 489, students will develop, document and present this system as a group.</p> <p><b>Assessment Method Category:</b> Case Studies/Problem-based Assignments</p> <p><b>Criterion for Success:</b> After completing ISYS 488, students will be able to maximize systems resources (system architecture; file conversion management and techniques; data processing policy and the organization). After completing ISYS 489, students will be able to test the system (prepare test plan and test schedule; conduct detailed program testing).</p> <hr/> <p><b>Assessment Method:</b> In ISYS 288, students will design a web-based application in a team setting, and in ISYS 489, students will develop, document and present this system as a group.</p> <p><b>Assessment Method Category:</b> Case Studies/Problem-based Assignments</p> <p><b>Criterion for Success:</b> Upon completion of ISYS 489, students will perform the following tasks: (1) requirements analysis; (2) systems planning; (3) preliminary design; (4) detailed design; (5) systems resources maximization; (6) formulate systems implementation plan; (7) write systems manual/s.</p> <p>Upon completion of ISYS 489, students will perform the following tasks: (1) implement the system; (2) write program code/s; (3) test the system; (4) write all required documentation; (5) post implementation follow-up; (6) develop techniques an analyst requires in selling the systems</p>	

Outcomes	Means of Assessment & Criteria for Success / Tasks	Results
	design.	
<p>Program - Computer Information Systems (B.S.) - Outcome H - Collaborate in design, develop, and implementation of a complete web based application for a business or organization.</p> <p><b>Outcome Types:</b> Learning</p> <p><b>Start Date:</b> 09/02/2008</p> <p><b>Outcome Status:</b> Active</p>	<p><b>Assessment Method:</b> In ISYS 488, students will design a web-based application in a team setting, and in ISYS 489, students will develop, document and present this system as a group.</p> <p><b>Assessment Method Category:</b> Case Studies/Problem-based Assignments</p> <p><b>Criterion for Success:</b> Upon completion of ISYS 488, students will perform the following tasks: (1) requirements analysis; (2) systems planning; (3) preliminary design; (4) detailed design; (5) systems resources maximization; (6) formulate systems implementation plan; (7) write systems manual/s. Upon completion of ISYS 489, students will perform the following tasks: (1) implement the system; (2) write program code/s; (3) test the system; (4) write all required documentation; (5) post implementation follow-up; (6) develop techniques an analyst requires in selling the systems design.</p> <hr/> <p><b>Assessment Method:</b> In ISYS 288, students will design a web-based application in a team setting, and in ISYS 489, students will develop, document and present this system as a group.</p> <p><b>Assessment Method Category:</b> Case Studies/Problem-based Assignments</p> <p><b>Criterion for Success:</b> Upon completion of ISYS 489, students will perform the following tasks: (1) requirements analysis; (2) systems planning; (3) preliminary design; (4) detailed design; (5) systems resources maximization; (6) formulate systems implementation plan; (7) write systems manual/s.</p>	

Outcomes	Means of Assessment & Criteria for Success / Tasks	Results
	<p>Case Studies/Problem-based Assignments</p> <p><b>Criterion for Success:</b>  Upon completion of ISYS 489, students will perform the following tasks: (1) requirements analysis; (2) systems planning; (3) preliminary design; (4) detailed design; (5) systems resources maximization; (6) formulate systems implementation plan; (7) write systems manual/s.</p> <p>Upon completion of ISYS 489, students will perform the following tasks: (1) implement the system; (2) write program code/s; (3) test the system; (4) write all required documentation; (5) post implementation follow-up; (6) develop techniques an analyst requires in selling the systems design.</p>	
<p>09/02/2008</p> <p><b>Outcome Status:</b> Active</p>	<p>of modeling techniques; develop skills in object-oriented design methodologies; detailed system design (design user interface input and output design; design process methods; design data structures); maximization of systems resources (system architecture; file conversion management and techniques; data processing policy and the organization). Upon completion of ISYS 489, students will: write program code/s: (code input screens; output screens; individual programs, and system integration programs with data structures; package the system; test the system (prepare test plan and test schedule; conduct detailed program testing).</p> <p><b>Assessment Method:</b>  In ISYS 288, students will design a web-based application in a team setting, and in ISYS 489, students will develop, document and present this system as a group.</p> <p><b>Assessment Method Category:</b></p>	

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Generated by TracDat a product of Nuventive.

6) Describe how assessment results at the course and program levels have assisted in making decisions about pedagogy, learning outcomes, and other course and/or program level actions.

The use of TracDat variables have helped faculty and students focus on the most important aspects of the courses, and the results help instructors identify areas where students may need more help.

Although this is the first year the CIS program has used TracDat, we have already identified and implemented areas for improvement. For example, concerns were identified in the first required programming course. In response, the text book was changed and the programming assignments were made more accessible. In another course, students were having difficulty with HTML. The course is being revised to spend more time on that topic.

7) List and describe what variables are tracked and why when assessing the effectiveness of the program (e.g. mastery of essentials of subject area, graduation rates, employment rates, pass rates on professional exams).

All of the variables listed in #6 above are being tracked since each is valued in helping our students achieve academic success.

8) Provide trend data for the variables listed in (1). Compare the data to accreditation benchmark standards if applicable, or provide some other type of assessment of the data.

9) Describe how the trend data in (2) is used to assess the rigor, breadth, and currency of the degree requirements and curriculum.

10) Describe how the trend data in (2) is used to assess the extent to which program goals are being met.

This is the first year that outcome variables were developed for all courses. Consequently any trend data will not exist until next year. There are no accreditation benchmark standards for our program.

J. SERVICE TO NON-MAJORS. Describe and assess the impact that delivery of service courses offered by the program or the department has on the program.

a) Identify and describe the General Education service courses provided by the program faculty for other departments at FSU.

The CIS program does not have any courses that are currently part of the general education requirements.



Identify and describe any non-General Education service courses or courses required for other programs. Comment on your interaction with the departments or programs for which the courses are provided.

The CIS program offers the following courses which are required by other programs:

- ISYS 105 Microcomputer Applications
- ISYS 200 Database Systems
- ISYS 204 Visual BASIC
- ISYS 305 Software Systems
- ISYS 321 Business Information Systems
- ISYS 325 Networking Essentials

The CIS faculty are in contact with faculty in other programs to ensure that our courses are providing the desired service in those courses.

b) Discuss the impact of the provision of General Education and non-General Education courses has on the program.

The non-General Education courses provide from 75% to 80% of the course load for the CIS program. We do not have any general education service courses.

c) Does the program plan to increase, decrease, or keep constant its level of service courses? Explain.

At this time, we are planning to maintain the current level of service courses. However, the University Committee on General Education is in the process of considering adding a technology competency requirement. Should this occur, the number of service courses would increase considerably and this would require a substantial increase in the resources needed to meet this requirement.

K. DEGREE PROGRAM COST AND PRODUCTIVITY DATA. Submit Institutional Research and Testing data. Comment on the data.

Year	Student Credit Hours				FTE Faculty				SCH/FTEF			
	Sum	Fall	Spr	F+Spr	Sum	Fall	Spr	F+Spr	Sum	Fall	Spr	F+Spr
2005	813	2988	2961	5949	3.34	12.25	12.33	12.29	243.78	243.92	240.08	483.99
2006 *	635	0	0	0	0	0	0	0	0	0	0	0
2006 *	0	3051	2979	6030	0	12.50	10.50	11.50	0	244.08	283.71	524.35
2007	754	3171	2961	6132	3.25	11.83	10.50	11.17	232.00	267.97	282.00	549.13
2008	648	3207	2871	6078	3.50	10.50	10.94	10.72	185.28	305.43	262.49	567.04
2009	646	2931	2919	5850	2.78	9.50	9.75	9.63	232.65	308.53	299.38	607.79
2010												

\* Note: Until the end of Summer 2006, CIS was a department. Beginning in Fall 2007 CIS became a program within the Accountancy, Finance, and Information Systems Department.

Spring enrollment is always somewhat smaller than fall semester enrollment. This pattern is common in virtually all programs. Having a dedicated set of adjunct faculty in the CIS program provides us with the flexibility needed to optimize student schedules. After exhibiting a general pattern of CIS student credit hour growth from 2005, there was a decline in 2009-2010. This may be due to the establishment of the new Information Security and Intelligence (ISI) program within the same department.

#### L. ADMINISTRATION EFFECTIVENESS

- 1) Discuss the adequacy of administrative and clerical support for the program.

CIS professors are generally believe that clerical support for the program administrators is excellent, although some survey respondents felt a lack of support for the faculty.

- 2) Are the program and/or department run in an efficient manner? Please explain.

CIS professors generally believe the program is run efficiently. Several faculty expressed concerns about the large number of required program meetings.

- 3) Are class and teaching schedules effectively and efficiently prepared? Please comment.

CIS professors are generally satisfied with the efficiency of the teaching schedules.

- 4) Are students able to take the courses they need in a timely manner? Please comment.

Under normal circumstances, students are able to take courses in a timely manner. However, when students attempt to take courses out of sequence, without meeting prerequisites, or attempt to transfer courses without prior consultation with their advisors, their progress may be delayed.

## Section 4

### Facilities and equipment

#### A. INSTRUCTIONAL ENVIRONMENT

- 1) Are current classrooms, labs, and technology (both on-campus and at off-site locations) adequate? Explain.

Since a goal of the CIS program is to provide instruction about the latest technological advances, the hardware and software will also need to keep pace. The current hardware and software in the on-campus labs are adequate. Unfortunately, hardware, software, and Internet connectivity issues can be problematic off-campus.

- 2) How does the condition of current facilities impact program delivery? Explain.

At present, the current facilities are adequate to support CIS program delivery on campus. Off-campus facilities need better technical support and Internet connectivity is still a problem that needs to be addressed.

- 3) Describe the program's projected needs with respect to instructional facilities.

In addition to a desktop computer in each office, CIS faculty would benefit from laptop computers that are equipped with on-campus software. Furthermore, as mobile computing grows, faculty will need to be provided with smart phones and tablet computers.

- 4) Describe current plans for facilities improvements and indicate their status.

Because of state budgetary problems, additional expenditures are uncertain.

- 5) Describe how proposed changes or improvements to facilities would enhance program delivery.

The acquisition of smart phones for faculty and students in ISYS 204 would support the implementation of new topics such as mobile computing using Visual Studio.

#### B. COMPUTER ACCESS AND AVAILABILITY

- 1) Outside of computers in faculty and staff offices, identify the computing resources (hardware and software) that are allocated to the program.

Computer resources are listed on the next pages:

## **COB Lab/Classroom Computers**

(Computers Only)

<b>BarCode #</b>	<b>Description</b>	<b>Clock(ghz)</b>	<b>Processor</b>	<b>RAM(mb)</b>	<b>HD (Gig)</b>
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<b>BUS-102</b>	(Computer Count = 1)	Location Type=	Classroom
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10101913	Optiplex GX280	2.80	Pentium 4	1	40
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<b>BUS-104</b>	(Computer Count = 48)	Location Type=	Public Access
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10103522	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103523	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103524	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103525	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103526	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103527	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103528	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103529	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103530	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103531	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103532	OPTIPLEX 745	2.13	Core 2 Duo	2	250

<i>BarCode #</i>	<i>Description</i>	<i>Clock(ghz)</i>	<i>Processor</i>	<i>RAM(mb)</i>	<i>HD (Gig)</i>
<b>BUS-104</b>	(Computer Count = 48 )	Location Type=	Public		
10103533	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103534	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103535	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103536	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103537	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103538	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103539	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103540	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103541	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103542	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103543	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103544	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103545	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103546	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103547	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103548	OPTIPLEX 745	2.13	Core 2 Duo	2	250

<i>BarCode #</i>	<i>Description</i>	<i>Clock(ghz)</i>	<i>Processor</i>	<i>RAM(mb)</i>	<i>HD (Gig)</i>
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<b>BUS-104</b>	(Computer Count = 48 )	Location Type=	Public		
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10103549	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103550	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103551	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103552	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103553	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103554	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103555	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103556	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103557	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103558	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103559	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103560	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103561	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103562	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103563	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103564	OPTIPLEX 745	2.13	Core 2 Duo	2	250

<i>BarCode #</i>	<i>Description</i>	<i>Clock(ghz)</i>	<i>Processor</i>	<i>RAM(mb)</i>	<i>HD (Gig)</i>
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<b>BUS-104</b>	(Computer Count = 48 )	Location Type=	Public		
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10103565	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103566	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103567	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103568	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103569	OPTIPLEX 745	2.13	Core 2 Duo	2	250



<i>BarCode #</i>	<i>Description</i>	<i>Clock(ghz)</i>	<i>Processor</i>	<i>RAM(mb)</i>	<i>HD (Gig)</i>
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**BUS-106**

(Computer Count = 22 ) Location Type=

Public

10102698	Optiplex GX280	3.40	Pentium 4	1	80
10102699	Optiplex GX280	3.40	Pentium 4	1	80
10102700	Optiplex GX280	3.40	Pentium 4	1	80
10102701	Optiplex GX280	3.40	Pentium 4	1	80
10102702	Optiplex GX280	3.40	Pentium 4	1	80
10102703	Optiplex GX280	3.40	Pentium 4	1	80
10102704	Optiplex GX280	3.40	Pentium 4	1	80
10102705	Optiplex GX280	3.40	Pentium 4	1	80
10102706	Optiplex GX280	3.40	Pentium 4	1	80
10102707	Optiplex GX280	3.40	Pentium 4	1	80
10102708	Optiplex GX280	3.40	Pentium 4	1	80
10102713	Optiplex GX280	3.40	Pentium 4	1	80
10102714	Optiplex GX280	3.40	Pentium 4	1	80
10102715	Optiplex GX280	3.40	Pentium 4	1	80
10102718	Optiplex GX280	3.40	Pentium 4	1	80
10102733	Optiplex GX280	3.40	Pentium 4	1	80

<i>BarCode #</i>	<i>Description</i>	<i>Clock(ghz)</i>	<i>Processor</i>	<i>RAM(mb)</i>	<i>HD (Gig)</i>
<b>BUS-106</b>	(Computer Count = 22 )	Location Type=	Public		
10102734	Optiplex GX280	3.40	Pentium 4	1	80
10102735	Optiplex GX280	3.40	Pentium 4	1	80
10102737	Optiplex GX280	3.40	Pentium 4	1	80
10102738	Optiplex GX280	3.40	Pentium 4	1	80
10102739	Optiplex GX280	3.40	Pentium 4	1	80
10102740	Optiplex GX280	3.40	Pentium 4	1	80

<b>BarCode #</b>	<b>Description</b>	<b>Clock(ghz)</b>	<b>Processor</b>	<b>RAM(mb)</b>	<b>HD (Gig)</b>
<b>BUS-108</b>	(Computer Count = <b>19</b> )	Location Type=	Service		
10100814	OPTIPLEX GX1	0.55		256	10
30101239	Optiplex GX240	1.80	Pentium 4	512	40
10101460	LATITUDE D820	2.16	Core 2 Duo	2	80
10101461	LATITUDE D820	2.16	Core 2 Duo	2	80
10101462	LATITUDE D820	2.16	Core 2 Duo	2	80
10101463	LATITUDE D820	2.16	Core 2 Duo	2	80
10101464	LATITUDE D820	2.16	Core 2 Duo	2	80
10101465	LATITUDE D820	2.16	Core 2 Duo	2	80
10101466	LATITUDE D820	2.16	Core 2 Duo	2	80
10103493	LATITUDE D830	2.50	Core 2 Duo	4	120
10103494	LATITUDE D830	2.50	Core 2 Duo	4	120
10103495	LATITUDE D830	2.50	Core 2 Duo	4	120
10103496	LATITUDE D830	2.50	Core 2 Duo	4	120
10103497	LATITUDE D830	2.50	Core 2 Duo	4	120
10103498	LATITUDE D830	2.50	Core 2 Duo	4	120
10103499	LATITUDE D830	2.50	Core 2 Duo	4	120

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**BUS-108**

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(Computer Count = 19) Location Type= Service Room

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10103144	OPTIPLEX GX620	3.20	Pentium D	2	160
10102709	Optiplex GX280	3.40	Pentium 4	1	80
10102716	Optiplex GX280	3.40	Pentium 4	1	80

<b><u>BarCode #</u></b>	<b><u>Description</u></b>	<b><u>Clock(ghz)</u></b>	<b><u>ProcessorFami</u></b>	<b><u>RAM(mb)</u></b>	<b><u>HD (Gig)</u></b>
<b>BUS-109</b>	(Computer Count = 25 )	Location	Classroom/Open		
10104279	iMac 24-in Widescreen	2.80	Core 2 Duo	4	320
10104280	iMac 24-in Widescreen	2.80	Core 2 Duo	4	320
10104281	iMac 24-in Widescreen	2.80	Core 2 Duo	4	320
10104282	iMac 24-in Widescreen	2.80	Core 2 Duo	4	320
10104283	iMac 24-in Widescreen	2.80	Core 2 Duo	4	320
10104284	iMac 24-in Widescreen	2.80	Core 2 Duo	4	320
10104285	iMac 24-in Widescreen	2.80	Core 2 Duo	4	320
10104286	iMac 24-in Widescreen	2.80	Core 2 Duo	4	320
10104287	iMac 24-in Widescreen	2.80	Core 2 Duo	4	320
10104288	iMac 24-in Widescreen	2.80	Core 2 Duo	4	320
10104289	iMac 24-in Widescreen	2.80	Core 2 Duo	4	320
10104290	iMac 24-in Widescreen	2.80	Core 2 Duo	4	320
10104291	iMac 24-in Widescreen	2.80	Core 2 Duo	4	320
10104292	iMac 24-in Widescreen	2.80	Core 2 Duo	4	320
10104293	iMac 24-in Widescreen	2.80	Core 2 Duo	4	320
10104294	iMac 24-in Widescreen	2.80	Core 2 Duo	4	320

<b><u>BarCode #</u></b>	<b><u>Description</u></b>	<b><u>Clock(ghz)</u></b>	<b><u>Processor</u></b>	<b><u>RAM(mb)</u></b>	<b><u>HD (Gig)</u></b>
<b>BUS-109</b>	(Computer Count = 25 )	Location	Classroom/Open		
10104295	iMac 24-in Widescreen	2.80	Core 2 Duo	4	320
10104296	iMac 24-in Widescreen	2.80	Core 2 Duo	4	320
10104297	iMac 24-in Widescreen	2.80	Core 2 Duo	4	320
10104298	iMac 24-in Widescreen	2.80	Core 2 Duo	4	320
10103944	iMac 24-in Widescreen	2.93	Core 2 Duo	4	640
10103945	iMac 24-in Widescreen	2.93	Core 2 Duo	4	640
10103946	iMac 24-in Widescreen	2.93	Core 2 Duo	4	640
10103947	iMac 24-in Widescreen	2.93	Core 2 Duo	4	640
10103948	iMac 24-in Widescreen	2.93	Core 2 Duo	4	640

<i>BarCode #</i>	<i>Description</i>	<i>Clock(ghz)</i>	<i>Processor</i>	<i>RAM(mb)</i>	<i>HD (Gig)</i>
<b>BUS-110</b>	(Computer Count = 24 )	Location Type=	Classroom/Open		
10102020	IMAC G5	1.80	Power PC	1	80
10102107	IMAC G5	1.90	Power PC	1	160
10102108	IMAC G5	1.90	Power PC	1	160
10102110	IMAC G5	1.90	Power PC	1	160
10102111	IMAC G5	1.90	Power PC	1	160
10102114	IMAC G5	1.90	Power PC	1	160
10102116	IMAC G5	1.90	Power PC	1	160
10102117	IMAC G5	1.90	Power PC	1	160
10102119	IMAC G5	1.90	Power PC	1	160
10102120	IMAC G5	1.90	Power PC	1	160
10102121	IMAC G5	1.90	Power PC	1	160
10102122	IMAC G5	1.90	Power PC	1	160
10102123	IMAC G5	1.90	Power PC	1	160
10102124	IMAC G5	1.90	Power PC	1	160
10102125	IMAC G5	1.90	Power PC	1	160
10102126	IMAC G5	1.90	Power PC	1	160

<b>BarCode #</b>	<b>Description</b>	<b>Clock(ghz)</b>	<b>Processor</b>	<b>RAM(mb)</b>	<b>HD (Gig)</b>
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**BUS-110** (Computer Count = 24) Location Type= Classroom/Open Lab

10102127	IMAC G5	1.90	Power PC	1	160
10102129	IMAC G5	1.90	Power PC	1	160
10102130	IMAC G5	1.90	Power PC	1	160
10102131	IMAC G5	1.90	Power PC	1	160
10102132	IMAC G5	1.90	Power PC	1	160
10102133	IMAC G5	1.90	Power PC	1	160
10101715	IMAC	2.00	Core 2 Duo	0	160
10106001	iMac	2.16	Core 2 Duo	1	160

**BUS-111** (Computer Count = 1) Location Type= Classroom

10102299	Optiplex GX280	3.40	Pentium 4	2	80
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**BUS-112** (Computer Count = 1) Location Type= Classroom

10102719	Optiplex GX280	3.40	Pentium 4	2	80
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<i>BarCode #</i>	<i>Description</i>	<i>Clock(ghz)</i>	<i>Processor</i>	<i>RAM(mb)</i>	<i>HD (Gig)</i>
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**BUS-116** (Computer Count = 29 ) Location Type= Classroom

10106719	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106720	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106722	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106723	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106724	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106725	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106726	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106727	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106728	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106729	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106730	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106731	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106732	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106733	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106734	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106735	Optiplex 755 MT	2.00	Core 2 Duo	4	232

<i>BarCode #</i>	<i>Description</i>	<i>Clock(ghz)</i>	<i>Processor</i>	<i>RAM(mb)</i>	<i>HD (Gig)</i>
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**BUS-116** (Computer Count = 29 ) Location Type= Classroom

10106736	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106737	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106738	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106739	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106740	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106741	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106742	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106743	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106744	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106745	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106746	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106747	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106721	Optiplex 755 MT	162.00	Core 2 Duo	4	250

<i>BarCode #</i>	<i>Description</i>	<i>Clock(ghz)</i>	<i>Processor</i>	<i>RAM(mb)</i>	<i>HD (Gig)</i>
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**BUS-118** (Computer Count = 26 ) Location Type= Classroom

10106659	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106660	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106661	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106662	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106663	Optiplex 755 MT	2.00	Core 2 Duo	4	232
10106664	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106665	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106666	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106667	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106668	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106669	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106670	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106671	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106672	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106673	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106674	Optiplex 755 MT	2.00	Core 2 Duo	4	250

<i>BarCode #</i>	<i>Description</i>	<i>Clock(ghz)</i>	<i>Processor</i>	<i>RAM(mb)</i>	<i>HD (Gig)</i>
<b>BUS-118</b>	(Computer Count = 26 )	Location Type=	Classroom		
10106675	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106676	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106677	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106678	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106679	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106680	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106681	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106683	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106684	Optiplex 755 MT	2.00	Core 2 Duo	4	250
10106682	Optiplex 755 MT	3.16	Core 2 Duo	3	250

<i>BarCode #</i>	<i>Description</i>	<i>Clock(ghz)</i>	<i>Processor</i>	<i>RAM(mb)</i>	<i>HD (Gig)</i>
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**BUS-121** (Computer Count = 37 ) Location Type= Classroom

10103487	Optiplex 755 MT	2.40	Quad Core	8	250
10104128	Optiplex 755 MT	2.40	Quad Core	8	250
10104129	Optiplex 755 MT	2.40	Quad Core	8	250
10104130	Optiplex 755 MT	2.40	Core 2 Duo	8	250
10104131	Optiplex 755 MT	2.40	Core 2 Duo	8	250
10104132	Optiplex 755 MT	2.40	Core 2 Duo	8	250
10104133	Optiplex 755 MT	2.40	Core 2 Duo	8	250
10104134	Optiplex 755 MT	2.40	Core 2 Duo	8	250
10104135	Optiplex 755 MT	2.40	Core 2 Duo	8	250
10104136	Optiplex 755 MT	2.40	Core 2 Duo	8	250
10104137	Optiplex 755 MT	2.40	Core 2 Duo	8	250
10104138	Optiplex 755 MT	2.40	Core 2 Duo	8	250
10104139	Optiplex 755 MT	2.40	Core 2 Duo	8	250
10104140	Optiplex 755 MT	2.40	Core 2 Duo	8	250
10104141	Optiplex 755 MT	2.40	Core 2 Duo	8	250
10104142	Optiplex 755 MT	2.40	Core 2 Duo	8	250

<i>BarCode #</i>	<i>Description</i>	<i>Clock(ghz)</i>	<i>Processor</i>	<i>RAM(mb)</i>	<i>HD (Gig)</i>
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**BUS-121** (Computer Count = 37 ) Location Type= Classroom

10104143	Optiplex 755 MT	2.40	Core 2 Duo	8	250
10106704	Optiplex 755 MT	2.40	Core 2 Duo	8	250
10106705	Optiplex 755 MT	2.40	Core 2 Duo	8	250
10106706	Optiplex 755 MT	2.40	Core 2 Duo	8	250
10106707	Optiplex 755 MT	2.40	Core 2 Duo	8	250
10106708	Optiplex 755 MT	2.40	Core 2 Duo	8	250
20201110	A+ Certification Test Ki	2.60	Core 2 Duo	2	80
20201111	A+ Certification Test Ki	2.60	Core 2 Duo	2	80
20201112	A+ Certification Test Ki	2.60	Core 2 Duo	2	80
20201113	A+ Certification Test Ki	2.60	Core 2 Duo	2	80
20201114	A+ Certification Test Ki	2.60	Core 2 Duo	2	80
20201115	A+ Certification Test Ki	2.60	Core 2 Duo	2	80
20201116	A+ Certification Test Ki	2.60	Core 2 Duo	2	80
20201117	A+ Certification Test Ki	2.60	Core 2 Duo	2	80
20201118	A+ Certification Test Ki	2.60	Core 2 Duo	2	80
20201119	A+ Certification Test Ki	2.60	Core 2 Duo	2	80

<b>BarCode #</b>	<b>Description</b>	<b>Clock(ghz)</b>	<b>Processor</b>	<b>RAM(mb)</b>	<b>HD (Gig)</b>
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<b>BUS-121</b>	(Computer Count = 37 )	Location	Classroom		
<hr/>					
20201120	A+ Certification Test Ki	2.60	Core 2 Duo	2	80
10101919	POWEREDGE SERVE	2.80		512	80
10100872	POWEREDGE 750	2.80		1	80
10100873	POWEREDGE 1800	2.80		1	160
10102618	Optiplex GX280	3.40	Pentium 4	2	80
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<b>BUS-124D</b>	(Computer Count = 1 )	Location	Office		
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10102648	Optiplex GX280	3.40	Pentium 4	1	80
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<b>BUS-128</b>	(Computer Count = 2 )	Location	Classroom		
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10106573	Optiplex 755 DT	2.33	Core 2 Duo	4	250
10106574	Optiplex 755 DT	2.33	Core 2 Duo	4	250
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<b>BUS-130</b>	(Computer Count = 1 )	Location	Classroom		
<hr/>					
10102723	Optiplex GX280	3.40	Pentium 4	2	80

<i>BarCode #</i>	<i>Description</i>	<i>Clock(ghz)</i>	<i>Processor</i>	<i>RAM(mb)</i>	<i>HD (Gig)</i>
<b>BUS-200</b> (Computer Count = 4 ) Location Office					
10101395	Optiplex GX240	1.70	Pentium 4	512	40
10102842	OPTIPLEX GX620	3.40	Pentium D	1	160
10103412	OPTIPLEX GX620	3.40	Pentium D	1	160
30100014	Optiplex GX280	3.40	Pentium 4	1	80
<b>BUS-201</b> (Computer Count = 1 ) Location Classroom					
10102729	Optiplex GX280	3.40	Pentium 4	2	80
<b>BUS-202</b> (Computer Count = 1 ) Location Classroom					
10102673	Optiplex GX280	3.40	Pentium 4	2	80
<b>BUS-203</b> (Computer Count = 1 ) Location Classroom					
10102720	Optiplex GX280	3.40	Pentium 4	2	80
<b>BUS-204</b> (Computer Count = 1 ) Location Classroom					
10106211	OPTIPLEX 745	2.40	Core 2 Duo	2	250
<b>BUS-205</b> (Computer Count = 1 ) Location Classroom					
10104202	Optiplex 755 MT	2.66	Core 2 Duo	4	160



<u>BarCode #</u>	<u>Description</u>	<u>Clock(ghz)</u>	<u>ProcessorFamily</u>	<u>RAM(mb)</u>	<u>HD</u>
<b>BUS-206</b> (Computer Count = 1 ) Location Type= Classroom					
10106220	OPTIPLEX 745	240	Core 2 Duo	2	250
<b>BUS-208</b> (Computer Count = 1 ) Location Type= Classroom					
10106223	OPTIPLEX 745	240	Core 2 Duo	2	250
<b>BUS-210</b> (Computer Count = 1 ) Location Type= Classroom					
10104210	Optiplex 755 MT	266	Core 2 Duo	4	160
<b>BUS-211</b> (Computer Count = 1 ) Location Type= Classroom					
10102659	Optiplex GX280	3.40	Pentium 4	2	80
<b>BUS-212</b> (Computer Count = 1 ) Location Type= Office					
10102630	Optiplex GX280	3.40	Pentium 4	1	80
<b>BUS-212E</b> (Computer Count = 1 ) Location Type= Office					
10101337	Optiplex GX260	2.26	Pentium 4	1	40
<b>BUS-212F</b> (Computer Count = 1 ) Location Type= Office					
10106454	LATITUDE D630	2.20	Core 2 Duo	2	120

<u>BarCode #</u>	<u>Description</u>	<u>Clock(ghz)</u>	<u>ProcessorFamily</u>	<u>RAM(mb)</u>	<u>HD</u>
<b>BUS-216</b> (Computer Count = 1 ) Location Type= Classroom					
10103072	Optiplex GX280	3.40	Pentium 4	1	80
<b>BUS-218</b> (Computer Count = 1 ) Location Type= Classroom					
10102730	Optiplex GX280	3.40	Pentium 4	2	80
<b>BUS-219</b> (Computer Count = 1 ) Location Type= Classroom					
10102726	Optiplex GX280	3.40	Pentium 4	2	80
<b>BUS-221</b> (Computer Count = 1 ) Location Type= Classroom					
10102725	Optiplex GX280	3.40	Pentium 4	2	80
<b>BUS-224</b> (Computer Count = 1 ) Location Type= Classroom					
10101947	Optiplex GX280	3.60	Pentium 4	2	80
<b>BUS-302</b> (Computer Count = 1 ) Location Type= Office					
10106594	MAC Mini	2.00	Core 2 Duo	2	160
<b>BUS-308A</b> (Computer Count = 2 ) Location Type = Storage					
10100052	PowerBook G4 17"	1.33	Power PC	1	80
10100056	PowerBook G4 17"	1.33	Power PC	1	80

<i>BarCode #</i>	<i>Description</i>	<i>Clock(ghz)</i>	<i>Processor</i>	<i>RAM(mb)</i>	<i>HD (Gig)</i>
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**BUS-309A** (Computer Count = 2) Location Type= Classroom

10101911	G5	2.50	Power PC	1	250
10104311	iMac 24"	3.06	Core 2 Duo	4	1000

**BUS-310** (Computer Count = 7) Location Type= Classroom

10103570	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103571	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103572	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103573	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103574	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103575	OPTIPLEX 745	2.13	Core 2 Duo	2	250
10103576	OPTIPLEX 745	2.13	Core 2 Duo	2	250

**BUS-312** (Computer Count = 1) Location Type= Classroom

10102486	Optiplex GX280	3.40	Pentium 4	2	80
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**BUS-314** (Computer Count = 1) Location Type= Classroom

10102731	Optiplex GX280	3.40	Pentium 4	2	80
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<b>BarCode #</b>	<b>Description</b>	<b>Clock(ghz)</b>	<b>Processor</b>	<b>RAM(mb)</b>	<b>HD (Gig)</b>
<b>BUS-316</b>	(Computer Count = 1 )	Location	Classroom		
10103070	Optiplex GX280	3.40	Pentium 4	2	80
<b>BUS-324</b>	(Computer Count = 1 )	Location	Office		
10101944	Optiplex GX280	3.60	Pentium 4	1	80
<b>BUS-327</b>	(Computer Count = 1 )	Location	Classroom		
10101943	Optiplex GX280	3.60	Pentium 4	2	80
<b>BUS-329</b>	(Computer Count = 7 )	Location	Classroom		
10601035	Optiplex 755 MT	3.16	Core 2 Duo	4	250
10601036	Optiplex 755 MT	3.16	Core 2 Duo	4	250
10601037	Optiplex 755 MT	3.16	Core 2 Duo	4	250
10601038	Optiplex 755 MT	3.16	Core 2 Duo	4	250
10601039	Optiplex 755 MT	3.16	Core 2 Duo	4	250
10601040	Optiplex 755 MT	3.16	Core 2 Duo	4	250
10601041	Optiplex 755 MT	3.16	Core 2 Duo	4	250

<i>BarCode #</i>	<i>Description</i>	<i>Clock(ghz)</i>	<i>Processor</i>	<i>RAM(mb)</i>	<i>HD (Gig)</i>
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**BUS-CHECKOUT** (Computer Count = 9)      Location      Storage

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20201036	Inspiron I8000	1.00		256	19
10101402	Flat Panel 15"	1.20		256	20
10100893	LATITUDE C510/C610	1.20		512	40
10101096	Latitude D800	1.80	Pentium M	1	40
10101916	Latitude D600	2.00	Pentium M	1	60
10102102	Inspiron 6000	2.00		1	80
10102104	Latitude D610	2.13	Pentium M	1	60
10102105	Latitude D610	2.13	Pentium M	1	60
10101616	Latitude C640	2.20		512	30

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**KAT-1** (Computer Count = 1)      Location      Open Lab

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10102721	Optiplex GX280	3.40	Pentium 4	1	80
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**KAT-2** (Computer Count = 1)      Location      Office

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10102711	Optiplex GX280	3.40	Pentium 4	1	80
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**KAT-PRO** (Computer Count = 1)      Location      Service Room

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10102651	Optiplex GX280	3.40	Pentium 4	1	80
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<i>BarCode #</i>	<i>Description</i>	<i>Clock(ghz)</i>	<i>Processor</i>	<i>RAM(mb)</i>	<i>HD (Gig)</i>
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<b>KNO-LAB</b>	(Computer Count = 3 )	Location	Open Lab		
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10103266	OPTIPLEX 745	2.40	Core 2 Duo	2	250
10102727	Optiplex GX280	3.40	Pentium 4	1	80
10102728	Optiplex GX280	3.40	Pentium 4	1	80

<b>WCO-101C</b>	(Computer Count = 4 )	Location	Office		
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20100922	OPTIPLEX GX110	1.20	Pentium III	256	20
20101458	Optiplex GX620	3.00	Pentium D	512	80
10102399	Optiplex GX280	3.40	Pentium 4	1	80
10102404	Optiplex GX280	3.40	Pentium 4	1	80

<b>WCO-101D</b>	(Computer Count = 4 )	Location	Office		
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40100835	Latitude D610	1.86	Pentium M	1	40
10106275	OPTIPLEX 745	2.40	Core 2 Duo	2	250
10103306	OPTIPLEX GX620	3.40	Pentium D	1	150
10100877	Optiplex GX280	3.60	Pentium 4	512	40

<b>WCO-102</b>	(Computer Count = 1 )	Location	Office		
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10104594	Optiplex 780 MT	2.66	Quad Core	4	160
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<u>BarCode #</u>	<u>Description</u>	<u>Clock(ghz)</u>	<u>ProcessorFamily</u>	<u>RAM(mb)</u>	<u>HD (G</u>
<b>WCO-103</b> (Computer Count = 1 ) Location Type= Classroom/Open Lab					
20101327	OPTIPLEX GX620	3.00	Pentium D	1	80
<b>WCO-105A</b> (Computer Count = 2 ) Location Type = Classroom / Open Lab					
10102717	Optiplex GX280	3.40	Pentium 4	1	80
10102732	Optiplex GX280	3.40	Pentium 4	1	80
<b>WCO-106A</b> (Computer Count = 1 ) Location Type= Office					
10102646	Optiplex GX280	3.40	Pentium 4	1	80
<b>WCO-109</b> (Computer Count = 1 ) Location Type= Classroom					
10101937	Optiplex GX280	3.60	Pentium 4	2	80
<b>WCO-110</b> (Computer Count = 1 ) Location Type= Classroom					
10102294	Optiplex GX280	3.40	Pentium 4	2	80
Total number of Computers		312	The average Processor speed is		12.60 GHZ

BarCode #      Description      Clock(ghz) ProcessorFamily RAM(mb) HD (G

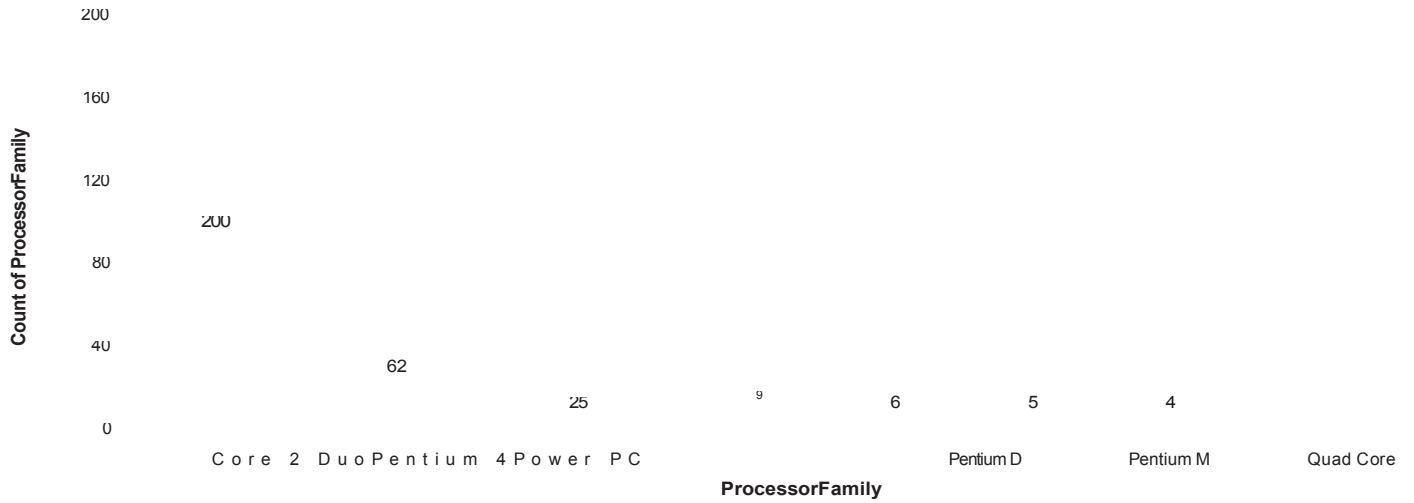
## Top Seven Models





BarCode #      Description      Clock(ghz) ProcessorFamily RAM(mb) HD (C

**7 Top Processors**



[C:\Program Files\Business Objects\BusinessObjects Enterprise 11.5\Data\procSched\fsuce1.reportjobserv](#)

- 2) Discuss how these resources are used.

These resources are available to support hands-on learning for our program.

- 3) Discuss the adequacy of these resources and identify needed additional resources.

The hardware and software resources are adequate to support current courses, but may not be adequate for new curricular initiatives.

- 4) Does an acquisition plan to address these needs currently exist? Describe the plan. Has it been included in the department or college's planning documents?

Currently, the hardware and software in the College of Business are on a two year replacement cycle.

- 5) Discuss the efficacy of online services (FerrisConnect) available to the program.

FerrisConnect is an important tool for supporting the CIS program. Every course in the CIS program uses FerrisConnect for instruction. This software has allowed for more efficient processing of assignments, projects, and discussion groups. The availability has made it possible to offer some courses fully online rather than at off-campus sites. A positive feature of FerrisConnect is its efficiency, secure test taking features, and effective record keeping. Assignments and projects are never misplaced.

Negative features include a major security breach on the assignment side. Unlike tests, which are secure, Blackboard/Ferris Connect has no security features for assignments. Blackboard/FerrisConnect is a popular package and heavily used at FSU, however, the vendor does not allow contact from faculty to report technical problems or security breaches. In addition, Blackboard/Ferris Connect slows down and crashes when there is very heavy usage of this product. This is likely a capacity issue which may be solved with more servers. If these two major problems can be corrected, Blackboard will continue to be a good platform for supporting instruction.

- 6) Discuss the adequacy of computer support, including the support for on-line instruction if applicable.

Technical support on-campus during the daytime has been very good. In the evenings, weekends, and off-campus, support is often unavailable.

Technical support from Blackboard is a problem since the company does not allow FSU faculty to contact it directly. A change in company policy would be tremendously helpful.

#### C. OTHER INSTRUCTIONAL TECHNOLOGY

- 1) Identify other types of instructional technology resources that are allocated or available to the program.

In addition to the hardware and software previously discussed, most classrooms have overhead projectors connected directly to the computer in the podium.

- 2) Discuss how these resources are used.

The podium computers and projectors are used to demonstrate how to use various software and to teach with PowerPoint presentations. This is far more effective than an hour long lecture without an actual demonstration.

- 3) Discuss the adequacy of these resources and identify needed additional resources.

While the overhead projectors are useful for demonstration purposes, the computers that are connected to the projectors are old and very slow. If a podium computer is turned off, it takes a very long time to reboot. In addition, there is a protective sheet of highly reflective glass between the instructor and the monitor surface. As a result, it can be difficult to see the monitor when there is a constant reflection of the overhead lights and other background images. A simple solution would be to replace the highly reflective glass with non-reflective, non-glare glass.

- 4) Does an acquisition plan to address these needs currently exist? Describe the plan. Has it been included in the department or college's planning documents?

Currently, the hardware and software in the College of Business are on a two year replacement cycle.

- 5) Discuss the impact of adequacy of other types of instructional technology resources and support of these resources on the program.

In keeping with "green" practices on campus, the podium monitors are sometimes turned off. When the next instructor uses the room, there may be a 5 minute (or more) delay because the old computers reboot so slowly.

#### D. LIBRARY RESOURCES

- 1) Discuss the adequacy of the print and electronic and other resources available through FLITE for the program.

As the College of Business is moving toward increasing the research and publication requirements for new faculty because of ACBSB accreditation, the library resources that were sufficient in prior years are becoming inadequate. In order to support the research and publication requirements, the electronic database resources will need to be expanded significantly.

- 2) Discuss the service and instruction availability provided by the Library faculty and staff with respect to the needs of the program.

CIS faculty are satisfied with the service provided with the library faculty and staff.

- 3) Discuss the impact of the budget allocation provided by FLITE to your program. Is the budget allocation adequate? Explain.

In order to expand greatly the number of publication databases, the budget allocation for FLITE will need to increase.

## Section 5

### Conclusions

Conclusions based on data analysis derived from Sections 2-4 and on the collective wisdom and judgment of the PRP. In arriving at these conclusions, the PRP should summarize the relationship of the program to each of following specific categories and any other categories it deems appropriate:

- A. RELATIONSHIP TO FSU MISSION
- B. PROGRAM VISIBILITY AND DISTINCTIVENESS
- C. PROGRAM VALUE
- D. ENROLLMENT
- E. CHARACTERISTICS, QUALITY AND EMPLOYABILITY OF STUDENTS
- F. QUALITY OF CURRICULUM AND INSTRUCTION
- G. COMPOSITION AND QUALITY OF THE FACULTY

While there are many computer related programs throughout Michigan, the CIS program at FSU is distinct in providing extensive hands-on training rather than lectures on abstract theories. This enables our graduates to become productive immediately. This philosophy pervades all of our courses and provides our students with a distinct competitive advantage, particularly during a prolonged recession. Many graduates from competing universities need to undergo several months of extensive retraining at company expense before they can be useful to their employers.

In addition to educating CIS students, the CIS program provides value to the university through its many service courses, both within the College of Business and across campus. Furthermore, several professors work with their students to develop projects for non-profit organizations in the community, thus engendering good relations with the community while providing realistic exposure to business challenges.

There had been a period of enrollment decline which reflected a wider national drop in the number of computer majors, possibly because of a distorted view of the role of outsourcing and misperceptions of the job market for new graduates. In any case, the enrollment for the CIS program has slowly begun to rebound.

The CIS program accepts all students who meet basic College of Business entrance requirements, thereby providing educational opportunities to a diverse body of students. By the time they graduate from our program, our students are highly sought after by industry and receive well paying entry jobs which are often followed by multiple lucrative promotions. All of this is possible because of our enthusiastic, dedicated, and well-trained faculty.

## **Appendix A**

### **Survey Results**

AMS ALUMNI APR SECTION

## CIS Program Review - Alumni Survey

### Section One: Desirable skills and trends

#### I. Technical Skills

**1.** Please rate the importance of each of the following *General PC Skills* for new CIS professionals.

	Not Important	Somewhat Important	Very Important	No Opinion
Word processing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spreadsheets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Presentation tools	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Databases	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Please Specify:	<hr/>			
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**2.** Please rate the importance of each of the following *Programming Skills* for new CIS professionals.

	Not Important	Somewhat Important	Very Important	No Opinion
ASP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C++	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C#	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COBOL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HTML	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Java	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
JavaScript	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PHP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Visual BASIC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
XML	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Please Specify:	<hr/>			
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**3.** Please rate the importance of each of the following *Database Skills* for new CIS professionals.

	Not Important	Somewhat Important	Very Important	No Opinion
DB2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oracle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SQL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SQL Server	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**4. Please rate the importance of each of the following *System Analysis and Design Skills* for new CIS professionals.**

	Not Important	Somewhat Important	Very Important	No Opinion
Database design	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IDE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rational Tools	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
UML	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please Specify:

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**5. Please rate the importance of each of the following *Project Management Skills* for new CIS professionals.**

	Not Important	Somewhat Important	Very Important	No Opinion
Business Intelligence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Integration Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Knowledge Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quality Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please Specify:

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**6. Please rate the importance of each of the following *General Business Skills* for new CIS professionals.**

	Not Important	Somewhat Important	Very Important	No Opinion
Accounting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Business Law	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Finance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marketing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Statistics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please Specify:

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**7. Please rate the importance of each of the following "*Soft Skills*" for new CIS professionals.**

	Not Important	Somewhat Important	Very Important	No Opinion
Ability to adapt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ethics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Leadership	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oral communication	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Presentation skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Written communication	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please Specify:

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## II. Academic preparation

### 8. Please rate how well your education at Ferris prepared you in each of the following *General PC Skills*:

	Not Prepared at All	Somewhat Prepared	Very Prepared	No Opinion
Word processing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spreadsheets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Presentation tools	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Databases	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please Specify:

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### 9. Please rate how well your education at Ferris prepared you in each of the following *Programming Skills*:

	Not Prepared at All	Somewhat Prepared	Very Prepared	No Opinion
ASP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C++	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C#	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COBOL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HTML	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Java	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
JavaScript	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PHP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Visual BASIC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
XML	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please Specify:

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### 10. Please rate how well your education at Ferris prepared you in each of the following *Database Skills*:

	Not Prepared at All	Somewhat Prepared	Very Prepared	No Opinion
DB2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oracle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SQL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SQL Server	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other

Please Specify:

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**11. Please rate how well your education at Ferris prepared you in each of the following *Systems Analysis and Design Skills*:**

	Not Prepared at All	Somewhat Prepared	Very Prepared	No Opinion
Database design	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IDE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rational Tools	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
UML	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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**12. Please rate how well your education at Ferris prepared you in each of the following *Project Management Skills*:**

	Not Prepared at All	Somewhat Prepared	Very Prepared	No Opinion
Business Intelligence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Integration Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Knowledge Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quality Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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**13. Please rate how well your education at Ferris prepared you in each of the following *General Business Skills*:**

	Not Prepared at All	Somewhat Prepared	Very Prepared	No Opinion
Accounting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Business Law	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Finance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marketing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Statistics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please Specify:

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**14. Please rate how well your education at Ferris prepared you in each of the following *"Soft Skills"*:**

	Not Prepared at All	Somewhat Prepared	Very Prepared	No Opinion
Ability to adapt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ethics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Leadership	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oral communication	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Presentation skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Written communication	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**Section Two: Information about CIS graduates. Your anonymity and confidentiality are guaranteed.**

- 15. Gender**
- Male
  - Female

- 16. When did you graduate?**
- 2010
  - 2009
  - 2008
  - 2007
  - 2006
  - 2005 or before

- 17. What is the *primary* area of your job responsibility? (Please select one)**
- Applications programmer
  - Communications/Network specialist
  - Database analyst
  - Database manager
  - IS/IT manager
  - Systems analyst
  - Systems programmer
  - Webmaster
  - Other

Please Specify:

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- 18. What was your INITIAL salary in Information Systems after graduation?**
- \$30,000 or less
  - \$30,001 to \$40,000
  - \$40,001 to \$50,000

- \$50,001 to \$60,000
- \$60,001 to \$70,000
- \$70,001 to \$80,000
- \$80,001 to \$90,000
- \$90,001 to \$100,000
- \$100,001 or more

**19. What is your CURRENT annual salary?**

- \$30,000 or less
- \$30,001 to \$40,000
- \$40,001 to \$50,000
- \$50,001 to \$60,000
- \$60,001 to \$70,000
- \$70,001 to \$80,000
- \$80,001 to \$90,000
- \$90,001 to \$100,000
- \$100,001 or more

**20. How many promotions have you received since graduation?**

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7 or more

**21. How many job changes have you had since graduation?**

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7 or more

**22. Were you involved with AITP**

- Yes
- No

**23. Please list any professional organizations to which you belong.**

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**Section Three: Your opinions**

**24.** Please describe what you think are the most important trends for future CIS graduates.

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**25.** What could be done to make the CIS program more effective in preparing students for the future trends in the CIS profession?

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**26.** Please use this space for any additional comments you wish to make.

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If you would like to become a member of the CIS advisory board, please send an e-mail to Jim Woolen at [woolenj@ferris.edu](mailto:woolenj@ferris.edu) or Clyde Hardman at [hardmanc@ferris.edu](mailto:hardmanc@ferris.edu).

Thank you for your time and participation.

## Section One: Desirable skills and trends

Please rate the importance of each of the following *General PC Skills* for new CIS professionals.

### Word processing

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	2	1.7	1.7	1.7
	Somewhat Important	33	28.0	28.0	29.7
	Very Important	82	69.5	69.5	99.2
	No Opinion	1	.8	.8	100.0
	Total	118	100.0	100.0	

### Spreadsheets

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	2	1.7	1.7	1.7
	Somewhat Important	28	23.7	23.7	25.4
	Very Important	86	72.9	72.9	98.3
	No Opinion	2	1.7	1.7	100.0
	Total	118	100.0	100.0	

### Presentation tools

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	3	2.5	2.5	2.5
	Somewhat Important	29	24.6	24.6	27.1
	Very Important	84	71.2	71.2	98.3
	No Opinion	2	1.7	1.7	100.0
	Total	118	100.0	100.0	

**Databases**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	1	.8	.9	.9
	Somewhat Important	28	23.7	23.9	24.8
	Very Important	85	72.0	72.6	97.4
	No Opinion	3	2.5	2.6	100.0
	Total	117	99.2	100.0	
Missing	System	1	.8		
Total		118	100.0		

**Other**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Important	6	5.1	13.0	13.0
	Very Important	14	11.9	30.4	43.5
	No Opinion	26	22.0	56.5	100.0
	Total	46	39.0	100.0	
Missing	System	72	61.0		
Total		118	100.0		

Please specify:

A general basic understanding of networking is critical too. Not only in design and implementation phases of projects, but also in troubleshooting.

All CIS majors should be trained in professional writing, analysis and presentation skills. Technical acumen is a required and provides the bare minimum for a graduate, but analysis, communication and presentation skills are just as valuable...maybe even more valuable.

All Microsoft packages would be a good skill for graduates.

Basic skills are very important, but these skills should already be obtained for new users entering the program. A 0-level course should be used for students who are not entering with these basic skills.

C#

collaboration software such as SharePoint, WebEx, Microsoft Live Meeting

Design tools (e.g., Photoshop, MS Visio)

English and email are very important too

Flowcharting or drawing tools

It truly depends on your position. We have some clients that will never touch a database, and are heavy users of spreadsheets.

Java programming is needed but Cobol programming is still important

Job/program specific skills/tools

Logical thinking.

MS Project

Network and infrastructure

PC operating systems and Search Engines

Project management skills, presentation skills

Project Planning Software

Project tracking software(e.g. Microsoft Project) and collaboration software (e.g. Microsoft SharePoint)

Some development language. A couple are good actually.

To be a well-rounded professional, you must be able to create documents, budget items and presentation material that will be understandable, straightforward, and in a form that will be easily read or viewed by the masses who may not be technically knowledgeable. You need to use word processing, spreadsheets and presentation tools daily in my position. And, the better you are at using them, the less you have to manually explain. Communication is the key.

Typing, Spelling, General Computer Knowledge

Understanding of Programming.

Visio

Web skills, troubleshooting through sites like Microsoft, HP, etc...



Please rate the importance of each of the following Programming Skills for new CIS professionals.

**ASP**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	7	5.9	6.2	6.2
	Somewhat Important	44	37.3	38.9	45.1
	Very Important	30	25.4	26.5	71.7
	No Opinion	32	27.1	28.3	100.0
	Total	113	95.8	100.0	
Missing	System	5	4.2		
Total		118	100.0		

**C++**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	8	6.8	7.1	7.1
	Somewhat Important	50	42.4	44.2	51.3
	Very Important	31	26.3	27.4	78.8
	No Opinion	24	20.3	21.2	100.0
	Total	113	95.8	100.0	
Missing	System	5	4.2		
Total		118	100.0		

**C#**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	6	5.1	5.4	5.4
	Somewhat Important	43	36.4	38.7	44.1
	Very Important	30	25.4	27.0	71.2
	No Opinion	32	27.1	28.8	100.0
	Total	111	94.1	100.0	
Missing	System	7	5.9		
Total		118	100.0		

**COBOL**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	48	40.7	42.1	42.1
	Somewhat Important	35	29.7	30.7	72.8
	Very Important	16	13.6	14.0	86.8
	No Opinion	15	12.7	13.2	100.0
	Total	114	96.6	100.0	
Missing	System	4	3.4		
Total		118	100.0		

**HTML**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	1	.8	.9	.9
	Somewhat Important	40	33.9	35.4	36.3
	Very Important	62	52.5	54.9	91.2
	No Opinion	10	8.5	8.8	100.0
	Total	113	95.8	100.0	
Missing	System	5	4.2		
Total		118	100.0		

**Java**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	1	.8	.9	.9
	Somewhat Important	35	29.7	29.9	30.8
	Very Important	70	59.3	59.8	90.6
	No Opinion	11	9.3	9.4	100.0
	Total	117	99.2	100.0	
Missing	System	1	.8		
Total		118	100.0		

**JavaScript**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	1	.8	.8	.8
	Somewhat Important	37	31.4	31.4	32.2
	Very Important	69	58.5	58.5	90.7
	No Opinion	11	9.3	9.3	100.0
	Total	118	100.0	100.0	

**PHP**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	5	4.2	4.5	4.5
	Somewhat Important	43	36.4	38.7	43.2
	Very Important	33	28.0	29.7	73.0
	No Opinion	30	25.4	27.0	100.0
	Total	111	94.1	100.0	
Missing	System	7	5.9		
Total		118	100.0		

**Visual BASIC**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	11	9.3	9.7	9.7
	Somewhat Important	57	48.3	50.4	60.2
	Very Important	29	24.6	25.7	85.8
	No Opinion	16	13.6	14.2	100.0
	Total	113	95.8	100.0	
Missing	System	5	4.2		
Total		118	100.0		

**XML**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	1	.8	.9	.9
	Somewhat Important	33	28.0	29.2	30.1
	Very Important	63	53.4	55.8	85.8
	No Opinion	16	13.6	14.2	100.0
	Total	113	95.8	100.0	
Missing	System	5	4.2		
Total		118	100.0		

**Other**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	1	.8	1.5	1.5
	Somewhat Important	10	8.5	15.4	16.9
	Very Important	14	11.9	21.5	38.5
	No Opinion	40	33.9	61.5	100.0
	Total	65	55.1	100.0	
Missing	System	53	44.9		
Total		118	100.0		

Please rate the importance of each of the following *Database Skills* for new CIS professionals.

**DB2**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	13	11.0	11.4	11.4
	Somewhat Important	56	47.5	49.1	60.5
	Very Important	25	21.2	21.9	82.5
	No Opinion	20	16.9	17.5	100.0
	Total	114	96.6	100.0	
Missing	System	4	3.4		
Total		118	100.0		

**Oracle**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	5	4.2	4.3	4.3
	Somewhat Important	36	30.5	31.0	35.3
	Very Important	66	55.9	56.9	92.2
	No Opinion	9	7.6	7.8	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**SQL**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Important	24	20.3	20.7	20.7
	Very Important	88	74.6	75.9	96.6
	No Opinion	4	3.4	3.4	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**SQL Server**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	1	.8	.9	.9
	Somewhat Important	32	27.1	27.8	28.7
	Very Important	76	64.4	66.1	94.8
	No Opinion	6	5.1	5.2	100.0
	Total	115	97.5	100.0	
Missing	System	3	2.5		
Total		118	100.0		

**Other**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	2	1.7	4.3	4.3
	Somewhat Important	7	5.9	15.2	19.6
	Very Important	5	4.2	10.9	30.4
	No Opinion	32	27.1	69.6	100.0
	Total	46	39.0	100.0	
Missing	System	72	61.0		
Total		118	100.0		

Please specify:

All CIS graduates should be well versed in SQL, No-SQL and the newest databases. The world is awash with data. Being able to design and build databases for transactional, analytical and massive scale systems are skills that all CIS majors should be exposed to.

All students should have at least a basic, if not an intermediate understanding of SOME database. In my work, Microsoft SQL/MySQL are most common.

Enscribe

I think Access is important as well.

many of these skills are purchased overseas.

Microsoft Access

More important than skills with any specific DBMS, it's more important initially to have a solid understanding of database fundamentals.

MySQL

MySQL

MySQL, MS SQL Server,

PostgreSQL, MySQL

sqlplus

Sybase

We use all the database systems. Again, knowing at least one is the primary thing, and knowing how to work with a database.

**Please rate the importance of each of the following *System Analysis and Design Skills* for new CIS professionals.**

**Database design**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	2	1.7	1.7	1.7
	Somewhat Important	31	26.3	26.7	28.4
	Very Important	77	65.3	66.4	94.8
	No Opinion	6	5.1	5.2	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		



**IDE**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	7	5.9	6.0	6.0
	Somewhat Important	43	36.4	37.1	43.1
	Very Important	32	27.1	27.6	70.7
	No Opinion	34	28.8	29.3	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Rational Tools**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	10	8.5	8.6	8.6
	Somewhat Important	46	39.0	39.7	48.3
	Very Important	32	27.1	27.6	75.9
	No Opinion	28	23.7	24.1	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**UML**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	6	5.1	5.4	5.4
	Somewhat Important	46	39.0	41.4	46.8
	Very Important	21	17.8	18.9	65.8
	No Opinion	38	32.2	34.2	100.0
	Total	111	94.1	100.0	
Missing	System	7	5.9		
Total		118	100.0		

Other

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	2	1.7	4.8	4.8
	Somewhat Important	2	1.7	4.8	9.5
	Very Important	4	3.4	9.5	19.0
	No Opinion	34	28.8	81.0	100.0
	Total	42	35.6	100.0	
Missing	System	76	64.4		
Total		118	100.0		

Please specify:

Agile Design and user interface design

An overall understanding of how to approach system analysis and design using an iterative approach is more important than the tools being used.

Analysis and Design skills are very important.

Everything seems to be going to integration, so IDE is definitely critical!

I'd wager that most students who leave the CIS program won't be going into an Enterprise environment. Focus on versatile skills.

Program diagramming

Use Case Design

Please rate the importance of each of the following *Project Management Skills* for new CIS professionals.

**Business Intelligence**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Important	30	25.4	25.9	25.9
	Very Important	78	66.1	67.2	93.1
	No Opinion	8	6.8	6.9	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Integration Management**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Important	27	22.9	23.1	23.1
	Very Important	80	67.8	68.4	91.5
	No Opinion	10	8.5	8.5	100.0
	Total	117	99.2	100.0	
Missing	System	1	.8		
Total		118	100.0		

**Knowledge Management**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	2	1.7	1.7	1.7
	Somewhat Important	43	36.4	36.8	38.5
	Very Important	61	51.7	52.1	90.6
	No Opinion	11	9.3	9.4	100.0
	Total	117	99.2	100.0	
Missing	System	1	.8		
Total		118	100.0		

**Quality Management**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	1	.8	.9	.9
	Somewhat Important	34	28.8	29.3	30.2
	Very Important	74	62.7	63.8	94.0
	No Opinion	7	5.9	6.0	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Other**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	1	.8	2.8	2.8
	Somewhat Important	2	1.7	5.6	8.3
	Very Important	5	4.2	13.9	22.2
	No Opinion	28	23.7	77.8	100.0
	Total	36	30.5	100.0	
Missing	System	82	69.5		
Total		118	100.0		

Please specify:

Configuration Management

Knowledge management is too general of a term. If you are going to be involved in today's business environment, you need to be very involved in not only the technical aspects of your position, but how the business runs and what makes it successful. Integration mgmt. is critical because multiple systems need to communicate with each other consistently. Quality is critical because bad data can make the difference in how decisions are made.

Project Scope Management

Risk Management

Six Sigma; business redesign.

These are tough to comment on. If a student is focused more on the Business side of the degree than the CIS side, these are critical - otherwise, they're more useful in a Masters degree, but a basic knowledge of these items is good.

**Please rate the importance of each of the following General Business Skills for new CIS professionals.**

**Accounting**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	15	12.7	12.9	12.9
	Somewhat Important	62	52.5	53.4	66.4
	Very Important	34	28.8	29.3	95.7
	No Opinion	5	4.2	4.3	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Business Law**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	22	18.6	19.1	19.1
	Somewhat Important	66	55.9	57.4	76.5
	Very Important	19	16.1	16.5	93.0
	No Opinion	8	6.8	7.0	100.0
	Total	115	97.5	100.0	
Missing	System	3	2.5		
Total		118	100.0		

**Finance**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	13	11.0	11.2	11.2
	Somewhat Important	58	49.2	50.0	61.2
	Very Important	40	33.9	34.5	95.7
	No Opinion	5	4.2	4.3	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Management**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	2	1.7	1.7	1.7
	Somewhat Important	36	30.5	31.3	33.0
	Very Important	75	63.6	65.2	98.3
	No Opinion	2	1.7	1.7	100.0
	Total	115	97.5	100.0	
Missing	System	3	2.5		
Total		118	100.0		

**Marketing**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	21	17.8	18.1	18.1
	Somewhat Important	65	55.1	56.0	74.1
	Very Important	26	22.0	22.4	96.6
	No Opinion	4	3.4	3.4	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Statistics**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	14	11.9	12.1	12.1
	Somewhat Important	62	52.5	53.4	65.5
	Very Important	35	29.7	30.2	95.7
	No Opinion	5	4.2	4.3	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Other**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	2	1.7	5.6	5.6
	Somewhat Important	5	4.2	13.9	19.4
	Very Important	3	2.5	8.3	27.8
	No Opinion	26	22.0	72.2	100.0
	Total	36	30.5	100.0	
Missing	System	82	69.5		
Total		118	100.0		

Please specify

Any Business student should have a reasonable grasp of Business Law, Marketing, and Management. Leave the in-depth financing and accounting to people who are more focused on those areas. Again, a basic knowledge is all that's required.

business operations

Business Writing

IT business strategy/Goals/Objective Setting

It is still extremely important for today's graduate to have a good base in financial concepts and general accounting. The bottom line is still the bottom line to the people that hire IT professionals. IT is a service related industry for the most part. We don't manufacture anything although some would argue that we create programs. However, these programs are by-and-large created to make someone else's job easier. We need to understand that and we need to be cognizant of our overall effect on the businesses that we serve.

New CIS professionals should understand the cause-and-effect of not meeting deadlines (i.e., how their work impacts others and the overall goals of the business). Too often, new professionals don't understand that ripple effect they have on a business.

**Please rate the importance of each of the following "Soft Skills" for new CIS professionals.**

**Ability to adapt**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Important	1	.8	.9	.9
	Very Important	112	94.9	97.4	98.3
	No Opinion	2	1.7	1.7	100.0
	Total	115	97.5	100.0	
Missing	System	3	2.5		
Total		118	100.0		

**Ethics**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Important	15	12.7	12.9	12.9
	Very Important	99	83.9	85.3	98.3
	No Opinion	2	1.7	1.7	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		



**Leadership**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Important	37	31.4	31.9	31.9
	Very Important	77	65.3	66.4	98.3
	No Opinion	2	1.7	1.7	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Oral communication**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Important	9	7.6	7.8	7.8
	Very Important	104	88.1	90.4	98.3
	No Opinion	2	1.7	1.7	100.0
	Total	115	97.5	100.0	
Missing	System	3	2.5		
Total		118	100.0		

**Presentation skills**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Important	31	26.3	26.7	26.7
	Very Important	83	70.3	71.6	98.3
	No Opinion	2	1.7	1.7	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Written communication**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Important	10	8.5	8.7	8.7
	Very Important	102	86.4	88.7	97.4
	No Opinion	3	2.5	2.6	100.0
	Total	115	97.5	100.0	
Missing	System	3	2.5		
Total		118	100.0		

#### Other

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	1	.8	2.8	2.8
	Somewhat Important	1	.8	2.8	5.6
	Very Important	9	7.6	25.0	30.6
	No Opinion	25	21.2	69.4	100.0
	Total	36	30.5	100.0	
Missing	System	82	69.5		
Total		118	100.0		

Please specify:

Ability to work in a team

All of the above soft skills are very important for someone to able to move up in their career.

I cannot stress enough the importance of communication. Written, oral, and graphic presentation skills are something that can be utilized every day in our environment. I have presented before Managers, Directors, Vice-Presidents, CFO's, CIO's, CEO's at various times. The more comfortable you get with these skills, the better chance you have of 'getting it right the first time'.

Interviewing skills

Not everyone is a leader and that is ok. If you had everyone who wanted to lead, you would have much conflict. I prefer self-starter or motivation as opposed to leadership - that is what management is there for. Many IT personnel you will find are introverts and that is ok to a point, they are very focused on their skill set and tasks at hand.

People Skills, Ability to work under pressure and independently

Strong communication skills - the ability to understand what your end users' business needs are is key when using CIS technology as a solution for those needs. Being able to break down the most complex of technical requirements and presenting them in a way to end users so that they can understand those concepts in meetings, etc. is also very important.

team work

These are CRITICAL to any business professional, especially CIS majors. Adaptability is an obvious must-have. The best example I have is the ISYS 489 class I took at Ferris. We had to learn the basics of a new language from the ground up in a matter of weeks, then produce a reasonably complete product. This is not unlike the real-world where a new project comes along, and you find yourself having to learn and be ready to support a new product very quickly. Also, I'd recommend less "large group presentation" skills and more small meeting or one-on-one presentation skills.

this is the heart of success of an individual within a corporate IT area.

Understanding the role of politics in the organization. Business is not run by rational decisions as much as by political decisions. (Politics does not mean voters politics; it means influence within an organization.)

Work Ethic. Professionals are being paid to work - not online shop, read the news, play games, etc.

## II. Academic preparation

### 8. Please rate how well your education at Ferris prepared you in each of the following *General PC Skills*:

#### Word processing

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	13	11.0	11.7	11.7
	Somewhat Prepared	38	32.2	34.2	45.9
	Very Prepared	44	37.3	39.6	85.6
	No Opinion	16	13.6	14.4	100.0
	Total	111	94.1	100.0	
Missing	System	7	5.9		
Total		118	100.0		

**Spreadsheets**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	22	18.6	19.6	19.6
	Somewhat Prepared	40	33.9	35.7	55.4
	Very Prepared	33	28.0	29.5	84.8
	No Opinion	17	14.4	15.2	100.0
	Total	112	94.9	100.0	
Missing	System	6	5.1		
Total		118	100.0		

**Presentation tools**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	21	17.8	18.8	18.8
	Somewhat Prepared	40	33.9	35.7	54.5
	Very Prepared	35	29.7	31.2	85.7
	No Opinion	16	13.6	14.3	100.0
	Total	112	94.9	100.0	
Missing	System	6	5.1		
Total		118	100.0		

**Databases**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	2	1.7	1.8	1.8
	Somewhat Prepared	52	44.1	46.4	48.2
	Very Prepared	50	42.4	44.6	92.9
	No Opinion	8	6.8	7.1	100.0
	Total	112	94.9	100.0	
Missing	System	6	5.1		
Total		118	100.0		

**Other**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	6	5.1	16.7	16.7
	Somewhat Prepared	1	.8	2.8	19.4
	Very Prepared	1	.8	2.8	22.2
	No Opinion	28	23.7	77.8	100.0
	Total	36	30.5	100.0	
Missing	System	82	69.5		
Total		118	100.0		

Please specify:

But it was 25 years ago.

Did not teach these skills when I was there.

English grammar and writing skills.

Every one of these choices was not available to me from 1970-1973. (They are ALL very critical in the business world today for IT professionals.)

I can't comment to the first three, as I've been very proficient with these Office tools since high school. Ferris helped me a lot to become comfortable with databases.

I graduated from Ferris when it was still a State College, or Pre-PC. The closest we had was a TRS-80 running Basic.

I graduated in 1973!

I guess that if there were PCs when I graduated, then I would have been exposed to them....;-)!

I had this knowledge prior to attending Ferris.

I learned most of these skills on the job.

It was a long time ago.

mainframes were the computing choice at the time I graduated ('74)

most of these didn't exist when I was at Ferris

most of these were not provided back in 1982! But these are very valuable for the workplace.

Only basics were taught regarding spreadsheets when I attended. In depth coverage of pivot tables and using complex formulas in the spreadsheets would have been desirable. More coverage of various databases would be very beneficial.

Our curricula was geared more to programming, which I don't use now.

Software for word processing/spreadsheets/databases did not exist when I attended Ferris.

The program was completely different when I went than it is now.

These all appeared after I graduated

**Please rate how well your education at Ferris prepared you in each of the following Programming Skills:**

**ASP**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	51	43.2	46.8	46.8
	Somewhat Prepared	15	12.7	13.8	60.6
	Very Prepared	1	.8	.9	61.5
	No Opinion	42	35.6	38.5	100.0
	Total	109	92.4	100.0	
Missing	System	9	7.6		
Total		118	100.0		

**C++**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	51	43.2	46.4	46.4
	Somewhat Prepared	14	11.9	12.7	59.1
	Very Prepared	7	5.9	6.4	65.5
	No Opinion	38	32.2	34.5	100.0
	Total	110	93.2	100.0	
Missing	System	8	6.8		
Total		118	100.0		

**C#**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	57	48.3	52.8	52.8
	Somewhat Prepared	8	6.8	7.4	60.2
	Very Prepared	2	1.7	1.9	62.0
	No Opinion	41	34.7	38.0	100.0
	Total	108	91.5	100.0	
Missing	System	10	8.5		
Total		118	100.0		

**COBOL**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	6	5.1	5.3	5.3
	Somewhat Prepared	22	18.6	19.5	24.8
	Very Prepared	72	61.0	63.7	88.5
	No Opinion	13	11.0	11.5	100.0
	Total	113	95.8	100.0	
Missing	System	5	4.2		
Total		118	100.0		

**HTML**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	46	39.0	41.8	41.8
	Somewhat Prepared	18	15.3	16.4	58.2
	Very Prepared	10	8.5	9.1	67.3
	No Opinion	36	30.5	32.7	100.0
	Total	110	93.2	100.0	
Missing	System	8	6.8		
Total		118	100.0		

**Java**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	51	43.2	46.4	46.4
	Somewhat Prepared	15	12.7	13.6	60.0
	Very Prepared	7	5.9	6.4	66.4
	No Opinion	37	31.4	33.6	100.0
	Total	110	93.2	100.0	
Missing	System	8	6.8		
Total		118	100.0		

#### JavaScript

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	56	47.5	50.9	50.9
	Somewhat Prepared	15	12.7	13.6	64.5
	Very Prepared	2	1.7	1.8	66.4
	No Opinion	37	31.4	33.6	100.0
	Total	110	93.2	100.0	
Missing	System	8	6.8		
Total		118	100.0		

#### PHP

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	65	55.1	59.1	59.1
	Somewhat Prepared	6	5.1	5.5	64.5
	No Opinion	39	33.1	35.5	100.0
	Total	110	93.2	100.0	
Missing	System	8	6.8		
Total		118	100.0		

#### Visual BASIC



		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	45	38.1	40.9	40.9
	Somewhat Prepared	22	18.6	20.0	60.9
	Very Prepared	12	10.2	10.9	71.8
	No Opinion	31	26.3	28.2	100.0
	Total	110	93.2	100.0	
Missing	System	8	6.8		
Total		118	100.0		

**XML**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	60	50.8	56.1	56.1
	Somewhat Prepared	7	5.9	6.5	62.6
	Very Prepared	2	1.7	1.9	64.5
	No Opinion	38	32.2	35.5	100.0
	Total	107	90.7	100.0	
Missing	System	11	9.3		
Total		118	100.0		

**Other**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	4	3.4	8.2	8.2
	Somewhat Prepared	4	3.4	8.2	16.3
	Very Prepared	9	7.6	18.4	34.7
	No Opinion	32	27.1	65.3	100.0
	Total	49	41.5	100.0	
Missing	System	69	58.5		
Total		118	100.0		

Please specify:

Again, I graduated in '73 and everything was mainframe.

Again, it was a long time ago.

ASP, HTML, Java, JavaScript, PHP and XML didn't exist in my day.

Assembler Language

Assembler, JCL

CICS, PL1, and all mainframe languages.. Including Assembler..

Cobol , Assembler(BAL), as well as RPGII were very critical to preparing me for my start in my IT career.. RPGII was very hot when I started my career. I highly advise that AS400 RPGIV be included in your classes.

I didn't focus on programming. Programming and Systems/Networking really need to be two separate areas of study, as they are two separate worlds in IT. Again, a basic understanding is good, but trying to force students to become jacks of all trades isn't the way to go unless you intend for the CIS degree to be exploratory. Also, are you guys really still forcing students to learn COBOL? Seriously, it's 2011.

I do not do any programming, I took a job that deals with more Networking, Hardware side of computers

I graduated before any of these except Cobol was created. Cobol was on the mainframe.

I graduated in 1992, so most of these programming languages were not around.

JCL, PL1

Many of these languages came out after my educational experience at Ferris - there were no classes available at that time.

However, the CIS department did do a good job with COBOL.

Most appeared after I graduated

most of the were not common when I graduated

Most of these are newer technologies than when I attended school. However, I can say that I felt woefully unprepared for the business world when I stepped into it.

Most of these languages did not exist when I went to college 1981-1985.

Most of these were developed after I graduated.

Much of this did not exist in 1983.

Much of this was not available when I went to Ferris.

My experience with C++ needed the business application of the software, not the graphical application of the software which was being taught at the time.

none of these langs existed back in my day.

Operating systems and database management systems.

PLI, JCL, SQL, EZTRIEVE,

RPG

RPG is the language used at my employer.

RPG, Assembler

RPG, Assembler, Fortran

RPG, BAL

RPG, JCL

**Please rate how well your education at Ferris prepared you in each of the following *Database Skills*:**

**DB2**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	44	37.3	38.9	38.9
	Somewhat Prepared	26	22.0	23.0	61.9
	Very Prepared	17	14.4	15.0	77.0
	No Opinion	26	22.0	23.0	100.0
	Total	113	95.8	100.0	
Missing	System	5	4.2		
Total		118	100.0		

**Oracle**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	55	46.6	48.7	48.7
	Somewhat Prepared	16	13.6	14.2	62.8
	Very Prepared	2	1.7	1.8	64.6
	No Opinion	40	33.9	35.4	100.0
	Total	113	95.8	100.0	
Missing	System	5	4.2		
Total		118	100.0		

**SQL**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	36	30.5	32.1	32.1
	Somewhat Prepared	35	29.7	31.2	63.4
	Very Prepared	15	12.7	13.4	76.8
	No Opinion	26	22.0	23.2	100.0
	Total	112	94.9	100.0	
Missing	System	6	5.1		
Total		118	100.0		

**SQL Server**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	45	38.1	40.2	40.2
	Somewhat Prepared	23	19.5	20.5	60.7
	Very Prepared	10	8.5	8.9	69.6
	No Opinion	34	28.8	30.4	100.0
	Total	112	94.9	100.0	
Missing	System	6	5.1		
Total		118	100.0		

**Other**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	1	.8	2.6	2.6
	Somewhat Prepared	2	1.7	5.1	7.7
	Very Prepared	1	.8	2.6	10.3
	No Opinion	35	29.7	89.7	100.0
	Total	39	33.1	100.0	
Missing	System	79	66.9		
Total		118	100.0		

Please specify:

"General" Relational Databases

All appeared after I graduated

By providing me with SQL knowledge, I was able to move easily from DB2 to Oracle in my career.

Did not teach these skills when I was there.

Every one of these choices was not available to me from 1970-1973. (They are ALL very critical in the business world today for IT professionals.)

IMS

Most not in existence

Most of these databases did not exist when I went to college 1981-1985.

My skills at Ferris were pre-pc. Only assembler, Cobol, and RPG II and RPG III. Everything else was learned OJT.

N/A

Relational databases were just starting out in the early 80s. I picked them up easily.

VSAM, ISAM, SAM

what I learned at Ferris was useful for what I used upon graduation, IDMS, Focus, Informix (back in 1982)

**Please rate how well your education at Ferris prepared you in each of the following *Systems Analysis and Design Skills*:**

**Database design**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	8	6.8	7.1	7.1
	Somewhat Prepared	49	41.5	43.4	50.4
	Very Prepared	47	39.8	41.6	92.0
	No Opinion	9	7.6	8.0	100.0
	Total	113	95.8	100.0	
Missing	System	5	4.2		
Total		118	100.0		

**IDE**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	45	38.1	40.9	40.9
	Somewhat Prepared	22	18.6	20.0	60.9
	Very Prepared	5	4.2	4.5	65.5
	No Opinion	38	32.2	34.5	100.0
	Total	110	93.2	100.0	
Missing	System	8	6.8		
Total		118	100.0		

**Rational Tools**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	45	38.1	40.9	40.9
	Somewhat Prepared	19	16.1	17.3	58.2
	Very Prepared	8	6.8	7.3	65.5
	No Opinion	38	32.2	34.5	100.0
	Total	110	93.2	100.0	
Missing	System	8	6.8		
Total		118	100.0		

**UML**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	50	42.4	45.5	45.5
	Somewhat Prepared	12	10.2	10.9	56.4
	Very Prepared	3	2.5	2.7	59.1
	No Opinion	45	38.1	40.9	100.0
	Total	110	93.2	100.0	
Missing	System	8	6.8		
Total		118	100.0		

**Other**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	2	1.7	5.7	5.7
	Somewhat Prepared	2	1.7	5.7	11.4
	No Opinion	31	26.3	88.6	100.0
	Total	35	29.7	100.0	
Missing	System	83	70.3		
Total		118	100.0		

Please specify:

Again, much of this was not invented until after I graduated, but my design skills were much better than most as a result of my training at Ferris.

Again, the systems analysis classes and the Sr. level classes we had were based around business principles of that time - many of the newer generation of processing was not taught at that time. (I feel old)

Did not teach these skills when I was there.

Every one of these choices was not available to me from 1970-1973. (They are ALL very critical in the business world today for IT professionals.)

I could have used more instruction on Systems Analysis and Design, from both the business side and the technical side, using commonly accepted tools.

Most of these IDEs did not exist when I went to college 1981-1985.

Not every student is going into an enterprise environment. When it comes to Systems, make sure students are capable with Microsoft Server systems, and architecting multi-windows server environments.

these tools didn't exist back in my day

User Interface design, navigation/page flow, etc.

**Please rate how well your education at Ferris prepared you in each of the following *General Business Skills*:**

**Business Intelligence**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	23	19.5	20.7	20.7
	Somewhat Prepared	47	39.8	42.3	63.1
	Very Prepared	28	23.7	25.2	88.3
	No Opinion	13	11.0	11.7	100.0
	Total	111	94.1	100.0	
Missing	System	7	5.9		
Total		118	100.0		

**Integration Management**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	25	21.2	22.5	22.5
	Somewhat Prepared	44	37.3	39.6	62.2
	Very Prepared	29	24.6	26.1	88.3
	No Opinion	13	11.0	11.7	100.0
	Total	111	94.1	100.0	
Missing	System	7	5.9		
Total		118	100.0		



**Knowledge Management**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	25	21.2	22.5	22.5
	Somewhat Prepared	49	41.5	44.1	66.7
	Very Prepared	23	19.5	20.7	87.4
	No Opinion	14	11.9	12.6	100.0
	Total	111	94.1	100.0	
Missing	System	7	5.9		
Total		118	100.0		

**Quality Management**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	23	19.5	20.5	20.5
	Somewhat Prepared	54	45.8	48.2	68.8
	Very Prepared	22	18.6	19.6	88.4
	No Opinion	13	11.0	11.6	100.0
	Total	112	94.9	100.0	
Missing	System	6	5.1		
Total		118	100.0		

**Other**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	3	2.5	8.1	8.1
	Somewhat Prepared	1	.8	2.7	10.8
	Very Prepared	2	1.7	5.4	16.2
	No Opinion	31	26.3	83.8	100.0
	Total	37	31.4	100.0	
Missing	System	81	68.6		
Total		118	100.0		

Please specify:

Best class @ Ferris was the final class we did the entire life cycle of gathering requirements, writing code, software testing and presentation to client

Could have used more time learning business proposals.

Didn't have a recognized Project Management discipline when I went to school. However, I found my dual degree of Data Processing (now CIS) and Management prepared me well for when Project Management emerged.

Every one of these choices was not available to me from 1970-1973. (They are ALL very critical in the business world today for IT professionals.)

I learned this on the job as opportunities arose.

I though Ferris did a fine job of prepping students for business oriented jobs when they graduated. The CIS curriculum was not just technical in nature. It was well-rounded to prepare graduates for the upcoming job market of the time. The interviews that were set up as part of the onsite placement were invaluable as well.

Project Management was not offered when I attended Ferris.

**Accounting**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	2	1.7	1.7	1.7
	Somewhat Prepared	57	48.3	49.1	50.9
	Very Prepared	53	44.9	45.7	96.6
	No Opinion	4	3.4	3.4	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Business Law**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	13	11.0	11.3	11.3
	Somewhat Prepared	59	50.0	51.3	62.6
	Very Prepared	34	28.8	29.6	92.2
	No Opinion	9	7.6	7.8	100.0
	Total	115	97.5	100.0	
Missing	System	3	2.5		
Total		118	100.0		

**Finance**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	5	4.2	4.3	4.3
	Somewhat Prepared	67	56.8	57.8	62.1
	Very Prepared	41	34.7	35.3	97.4
	No Opinion	3	2.5	2.6	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Management**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	8	6.8	6.9	6.9
	Somewhat Prepared	53	44.9	45.7	52.6
	Very Prepared	53	44.9	45.7	98.3
	No Opinion	2	1.7	1.7	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Marketing**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	14	11.9	12.1	12.1
	Somewhat Prepared	62	52.5	53.4	65.5
	Very Prepared	35	29.7	30.2	95.7
	No Opinion	5	4.2	4.3	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Statistics**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	9	7.6	7.8	7.8
	Somewhat Prepared	57	48.3	49.1	56.9
	Very Prepared	44	37.3	37.9	94.8
	No Opinion	6	5.1	5.2	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Other**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	1	.8	3.3	3.3
	Somewhat Prepared	2	1.7	6.7	10.0
	Very Prepared	1	.8	3.3	13.3
	No Opinion	26	22.0	86.7	100.0
	Total	30	25.4	100.0	
Missing	System	88	74.6		
Total		118	100.0		

Please specify:

Again, well-rounded for preparing potential graduates to focus on all aspects of the work environment, not just technical. Of course, the student had to be interested in all aspects in order to get the most out of the classes.

Communication

most of these are not needed for either my first entry level job, or my current.

My general business classes were far superior to my CIS classes.

Not part of the CIS curriculum.

Organizational politics

Please note that I felt more prepared in Accounting having taken more courses in it (started as an Accounting major) and also having practiced accounting prior to attending Ferris.

Statistics is nearly irrelevant unless a student is moving straight into management. Overall, Ferris prepared me very well in the general business area.

When opportunities arose, I learned this on the job.

Please rate how well your education at Ferris prepared you in each of the following "Soft Skills":

**Ability to adapt**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	4	3.4	3.5	3.5
	Somewhat Prepared	42	35.6	36.5	40.0
	Very Prepared	64	54.2	55.7	95.7
	No Opinion	5	4.2	4.3	100.0
	Total	115	97.5	100.0	
Missing	System	3	2.5		
Total		118	100.0		

**Ethics**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	9	7.6	7.8	7.8
	Somewhat Prepared	43	36.4	37.1	44.8
	Very Prepared	53	44.9	45.7	90.5
	No Opinion	11	9.3	9.5	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Leadership**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	8	6.8	6.9	6.9
	Somewhat Prepared	52	44.1	44.8	51.7
	Very Prepared	50	42.4	43.1	94.8
	No Opinion	6	5.1	5.2	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Oral communication**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	2	1.7	1.7	1.7
	Somewhat Prepared	50	42.4	43.1	44.8
	Very Prepared	59	50.0	50.9	95.7
	No Opinion	5	4.2	4.3	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Presentation skills**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	5	4.2	4.3	4.3
	Somewhat Prepared	53	44.9	45.7	50.0
	Very Prepared	53	44.9	45.7	95.7
	No Opinion	5	4.2	4.3	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Written communication**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	5	4.2	4.3	4.3
	Somewhat Prepared	44	37.3	37.9	42.2
	Very Prepared	62	52.5	53.4	95.7
	No Opinion	5	4.2	4.3	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Other**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Prepared at All	1	.8	2.9	2.9
	Somewhat Prepared	1	.8	2.9	5.9
	Very Prepared	1	.8	2.9	8.8
	No Opinion	31	26.3	91.2	100.0
	Total	34	28.8	100.0	
Missing	System	84	71.2		
Total		118	100.0		

Please specify:

English grammar and writing skills were not re-enforced at the college level.

I don't remember taking classes for the majority of these skills. Things like "ability to adapt" and "ethics" speak more to who you are as a person - not what you learn in a classroom. I learned these skills by choosing wisely when seeking out a professional mentor.

I had the opportunity to excel by learning from mistakes in my time at Ferris in CIS. I still credit some of the failures I had with helping me adapt better to the professional environment outside of school. I learned how to learn at Ferris and the other universities I attended. My experience at Ferris State Univ. was very positive.

I think part of these is what you bring to the table as well. If you aren't an ethical person, taking a class in ethics is not going to impact you.

These were all skills I had coming in to Ferris.



**Section Two: Information about CIS graduates. Your anonymity and confidentiality are guaranteed.**

**Gender**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	87	73.7	74.4	74.4
	Female	30	25.4	25.6	100.0
	Total	117	99.2	100.0	
Missing	System	1	.8		
Total		118	100.0		

**When did you graduate?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2010	2	1.7	1.7	1.7
	2008	1	.8	.8	2.5
	2007	2	1.7	1.7	4.2
	2006	3	2.5	2.5	6.8
	2005 or before	110	93.2	93.2	100.0
	Total	118	100.0	100.0	

**What is the primary area of your job responsibility?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Applications programmer	17	14.4	15.0	15.0
	Communications/Network specialty	4	3.4	3.5	18.6
	Database analyst	2	1.7	1.8	20.4
	Database manager	3	2.5	2.7	23.0
	IS/IT manager	20	16.9	17.7	40.7
	Systems analyst	11	9.3	9.7	50.4
	Systems programmer	2	1.7	1.8	52.2
	Other	54	45.8	47.8	100.0
	Total	113	95.8	100.0	
Missing	System	5	4.2		
Total		118	100.0		

**Please specify:**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		57	48.3	48.3	48.3
	Administrative Secretary but my computer skills is what qualified me for this position which I have held for 16 years.	1	.8	.8	49.2
	Business analyst	1	.8	.8	50.0
	Business Owner	1	.8	.8	50.8
	Business System Owner	1	.8	.8	51.7
	CEO	1	.8	.8	52.5
	CIO	1	.8	.8	53.4
	Computer systems administrator	1	.8	.8	54.2
	Currently not working in my field of study since 2001. But, while working for EDS my title was Information Analyst/Systems programmer.	1	.8	.8	55.1

Data Architect	1	.8	.8	55.9
Data Center Manager	1	.8	.8	56.8
Desktop Support and System Admin	1	.8	.8	57.6
Development manager for Elavon Merchant System (USBank).. International development team..	1	.8	.8	58.5
Director	1	.8	.8	59.3
E-Learning Application Specialist/Web Developer	1	.8	.8	60.2
ERP Administrator	1	.8	.8	61.0
Former IT Director, now retired after 28 years and currently teaching part-time at a community college	1	.8	.8	61.9
Formerly programmer/analyst and business analyst; currently unemployed	1	.8	.8	62.7
HR	1	.8	.8	63.6
I am in law school right now. All of the above means nothing if students can't land good jobs.	1	.8	.8	64.4
I am not working in my field.	1	.8	.8	65.3
I moved into Sales.	1	.8	.8	66.1
I provide 3rd level application support.	1	.8	.8	66.9
Independent investor	1	.8	.8	67.8
Information Security Engineer	1	.8	.8	68.6
IS/IT Director	1	.8	.8	69.5
IT	1	.8	.8	70.3
IT auditor	1	.8	.8	71.2
IT business analyst	1	.8	.8	72.0
IT Management	1	.8	.8	72.9
IT Project Manager	1	.8	.8	73.7
Lead Information System Specialist systems analyst and programming	1	.8	.8	74.6

Longitudinal Data Manager	1	.8	.8	75.4
Network Security	1	.8	.8	76.3
Network Technician	1	.8	.8	77.1
Network/Systems Administrator	1	.8	.8	78.0
never got a job in the CIS field	1	.8	.8	78.8
Not in IT at the moment.	1	.8	.8	79.7
owner operator of a business intelligence / data mining company	1	.8	.8	80.5
PC technician	1	.8	.8	81.4
PC/LAN Specialist, which to say is about all the above.	1	.8	.8	82.2
Program Manager	1	.8	.8	83.1
Project leader, performing testing, analysis, design, release management - all aspects of Application development.	1	.8	.8	83.9
Project Management	1	.8	.8	84.7
Project Manager	2	1.7	1.7	86.4
Project Manager - Compliance	1	.8	.8	87.3
Quality Assurance Analyst	1	.8	.8	88.1
retired	1	.8	.8	89.0
Software development executive	1	.8	.8	89.8
Software Product Manager	1	.8	.8	90.7
Software Quality Assurance Manager	1	.8	.8	91.5
stock clerk	1	.8	.8	92.4
Supply Chain	1	.8	.8	93.2
Systems Administrator	1	.8	.8	94.1
Systems administrator...the term "systems programmer" is no longer used in the field.	1	.8	.8	94.9
Technical Trainer	1	.8	.8	95.8
technology director	1	.8	.8	96.6

Technology Lead, Project Manager, Application Administrator	1	.8	.8	97.5
Unix Admin, Backup Admin, Oracle DBA Jr., Sql DBA junior, PC tech, Midrange Admin., Infrastructure, SAN Admin, Windows Admin	1	.8	.8	98.3
VP, Product Management	1	.8	.8	99.2
Work is primarily PC/Network Support & Repair	1	.8	.8	100.0
Total	118	100.0	100.0	

**What was your INITIAL salary in Information Systems after graduation?**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid \$30,000 or less	80	67.8	67.8	67.8
\$30,001 to \$40,000	25	21.2	21.2	89.0
\$40,001 to \$50,000	11	9.3	9.3	98.3
\$50,001 to \$60,000	1	.8	.8	99.2
\$60,001 to \$70,000	1	.8	.8	100.0
Total	118	100.0	100.0	

**What is your CURRENT annual salary?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	\$30,000 or less	7	5.9	6.2	6.2
	\$30,001 to \$40,000	7	5.9	6.2	12.5
	\$40,001 to \$50,000	11	9.3	9.8	22.3
	\$50,001 to \$60,000	8	6.8	7.1	29.5
	\$60,001 to \$70,000	13	11.0	11.6	41.1
	\$70,001 to \$80,000	11	9.3	9.8	50.9
	\$80,001 to \$90,000	9	7.6	8.0	58.9
	\$90,001 to \$100,000	11	9.3	9.8	68.8
	\$100,001 or more	35	29.7	31.2	100.0
	Total	112	94.9	100.0	
Missing	System	6	5.1		
Total		118	100.0		

**How many promotions have you received since graduation?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	11	9.3	9.6	9.6
	1	11	9.3	9.6	19.3
	2	18	15.3	15.8	35.1
	3	12	10.2	10.5	45.6
	4	11	9.3	9.6	55.3
	5	17	14.4	14.9	70.2
	6	3	2.5	2.6	72.8
	7 or more	31	26.3	27.2	100.0
	Total	114	96.6	100.0	
Missing	System	4	3.4		
Total		118	100.0		

**How many job changes have you had since graduation?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	17	14.4	14.7	14.7
	1	16	13.6	13.8	28.4
	2	16	13.6	13.8	42.2
	3	13	11.0	11.2	53.4
	4	11	9.3	9.5	62.9
	5	18	15.3	15.5	78.4
	6	9	7.6	7.8	86.2
	7 or more	16	13.6	13.8	100.0
	Total	116	98.3	100.0	
Missing	System	2	1.7		
Total		118	100.0		

**Were you involved with AITP?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	11	9.3	9.6	9.6
	No	103	87.3	90.4	100.0
	Total	114	96.6	100.0	
Missing	System	4	3.4		
Total		118	100.0		



Please list any professional organizations to which you belong

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	84	71.2	71.2	71.2
"LinkedIn" for business networking.	1	.8	.8	72.0
AITP	1	.8	.8	72.9
AMA	1	.8	.8	73.7
American Payroll Association ASTD	1	.8	.8	74.6
APICS, Grand Rapids Perl Mongers,	1	.8	.8	75.4
Business Networking International	1	.8	.8	76.3
Delta Sigma Pi	1	.8	.8	77.1
Delta Sigma Pi Alimni	1	.8	.8	78.0
Delta Sigma Pi Professional Business Fraternity	1	.8	.8	78.8
Education Information Management Advisory Consortium - Longitudinal Data (Data and Statistics) Subcommittee.	1	.8	.8	79.7
IIBA	1	.8	.8	80.5
Information Systems Audit and Control Association Project Management Institute Association of Certified Fraud Examiners	1	.8	.8	81.4
ISACA IIA	1	.8	.8	82.2
ISACA, PMI	1	.8	.8	83.1
ITUG	1	.8	.8	83.9
MCP	1	.8	.8	84.7
N/A	2	1.7	1.7	86.4
none	2	1.7	1.7	88.1
None	4	3.4	3.4	91.5
PMI	2	1.7	1.7	93.2
PMI - Project Management Institute	1	.8	.8	94.1

PMI, Business Analysts, QIA, CIO mentorship program (Midwest Technology Leaders)	1	.8	.8	94.9
Pragmatic Marketing, Association of International Product Marketing and Product Management (AIPMM) and Product Development and Management Association (PDMA).	1	.8	.8	95.8
Project Management Institute	1	.8	.8	96.6
Project Management Institute.	1	.8	.8	97.5
Question 22 should be revised to include the former CISA, for 2003 and earlier graduates.	1	.8	.8	98.3
VMware Users Group	1	.8	.8	99.2
WMNTUG	1	.8	.8	100.0
Total	118	100.0	100.0	

## Section Three: Your opinions

Please describe what you think are the most important trends for future CIS graduates.

1) Internet/cloud/networking people together will require I.T. people to make it happen. 2) Baby boomers will be retiring in increasing numbers and old legacy systems will still need someone to maintain them.

ability to adapt to rapidly changing skill set demand. Collaboration and interpersonal skills in working with multi-national teams. Technology to support cost effective innovation

Ability to communicate your ideas well and to be able to look at multiple sides of a problem/design

Adapting back to Mainframe development as we lose more senior developers to retirement.

Adapting to new web software and mobile devices.

Agile development for faster results.

Agile Development Growth of mobile devices and application Data mining and business intelligence

agile frameworks like Scrum, XP, Kanban more formal project management including PMO's working as a team member - more collaborative working environments

Business Intelligence, Data Warehousing, and Data Mining.

C#, i wish when I was at Ferris that I had the opportunity to take a C# class. When I started looking for jobs, that is all I saw was C# and I couldn't apply to any as I have had no experience in that language.

CIS graduates need to bring energy to their work environment - this coupled with good technical and analytical skills is important too. The ability be detail oriented is also important in conjunction with strong communication skills.

cloud computing, data interoperability, health care market, agile software development

Cloud computing, tablets

Cloud computing, virtualization and coordination with Low Cost Country capabilities

Cloud, VoIP, Telepresence

Communication and project management. In my job, these are the two most important aspects and what I spend all of my time on. I need the technical knowledge in order to understand the projects I manage, but I do not need the ability to do all of the technical changes required for the projects I manage (For example: I don't have to write the code, but I have to understand how the application interacts with our other applications).

Communications - Written, Verbal, Presentation. Analysis beyond technology, business oriented. General Business acumen in all operational areas.

Database design, analytical thinking

Designing with security controls and quality. Our industry of writing business software is failing to be secure and contains too many software defects, and often lacks pre-design review.

ERP systems, web based applications and tools, project management certification, Six Sigma certification, business application knowledge on how business integrates and relates. Cisco LAN/WAN, VoIP technologies.

Flexibility

Future CIS graduates need to be well-rounded with a good mix of technical and industry knowledge. Basic business knowledge will always be important. However, I cannot stress enough how important it is to be able to communicate well and present yourself well in the business environment. The days of being strictly a technical resource are few and far between in the corporate world. You must know how to do technical work and you must also know how to explain it by preparing good analysis documentation and presentation materials when needed. As far as industry trends, I see Health Care, Security, and integration as areas that will be trending high over the upcoming years. Integrating disparate systems and making them communicate together is a challenge across today's business environment. In the era of mergers and acquisitions, it was all about acquiring as much as possible to put a business in the best position to succeed over the long haul. Now, standardization of business practices requires an attempt at standardizing data and functionality on one platform. Health Care changes at a government level will yield huge opportunities in the future in my opinion as long as funding is available. Security needs have grown due to the availability of data and the emergence of huge mega-corporations. Everyone wants data at their fingertips but how do you provide it in a secure manner? These are just a few of the key areas for the potential CIS graduate.

I believe that the industry is evolving to a more self educated certifiable track which puts the emphasis on presentation, management, and communication skills. The ability to sell and explain the knowledge you acquire.

I believe that the web is still the biggest area for growth. I worked in the public sector my entire career and when I retired it was still the most changing area of the department. Another important area is Geographic Information Systems. This was really starting to take off and finding people already trained in that area was somewhat of a challenge.

I see an increasing trend in Project Management skills, Web based programming, .Net programming and a paradigm shift from Legacy systems to Faster, cheaper, better packaged products that are web friendly. Iterative programming techniques are surfacing which allows for iterative cycles of "productionalized coding" vs. the "big bang" theory of implementing the entire project at once.

I was a dual degree major, which was great, but with CIS, I think the trends change so fast it's hard to keep up. I think mobile computing is large, and the security of our data is HUGE. I am not familiar with the program now to know if you offer a security "degree" so to speak. Also, we see SharePoint as a growing market.

in 1982 I feel that the fact that the CIS program was part of the school of Business definitely helped me get my first job (as opposed to Computer Science).

information security

Information security, Windows server and Unix server management, database administration, programming

Integration technologies; cloud computing

ITIL, Quality Assurance in software, System Development Methodologies, SDLC,

Learn Web Based development, Learn JAVA, Learn DB/2.

managing third party software solutions and relationships.

Mobile applications and cloud computing are certainly important, but must be grounded in fundamental system architecture.

Mobile apps, cloud computing

Mobile apps. Telematics. RFID.

Mobile Computing

Mobile computing Secure coding QA processes

Mobile development, open source software & tools, software contract review skills, vendor management, and integration skills

Mobile device application development, healthcare and energy system focus

Mobile market programming, network design, installation, support, db designs to support mobile markets and security

mobile web. ecommerce

More of a focus(minor) on datacenter technologies: Network, storage, and virtualization.

New CIS students must be well versed in the area of technology. This is a ever changing field and there must be a comprehensive program offered that will provide the skill set that will help these students land a job in this field.

OJT, specific training to needed skills, teamwork, research, and a skills that cannot be taught, attitude and humility. Today the skills needed cover multiple disciplines, and require a smattering of knowledge in each area. Also, students would do well to work in the computer labs and help younger students with their work. Top students would do well to help the faculty in day to day operations as great knowledge is passed by those who do the work.

Oracle, database design, SQL...SQL...SQL... Keep learning/trying new things!

People skills are the most important.

Platforms other than Wintel. IE Apple.

Project management skills. ITIL Certification. Virtual Environment Understanding. The best thing the CIS program at Ferris could do is to include the ability to receive certification in their courses.

SAP

SharePoint will be a major force in most businesses. Also, Business Intelligence reporting is another strong requirements.

Solid overall development skills combined with a solid business background.

some topics of importance include: the software development process and lifecycle, agile and waterfall styles. Students should be exposed to storage management, networking, and database programming and management. Don't forget about the back office. Data management, data warehousing, and large scale batch and real time data processing make the world go around.

SQL and XML

Stay current on new technology

Staying current

Staying current with software and smart devices.

Still mainframe systems to support and/or change to new technology so familiarity with mainframe languages may be useful.

Storage Management - Tiering & archiving. Virtualization, Cloud Computing, Cisco Networking and Project Management.

The ability to compete in the global environment.

The ability to deeply integrate into the business community. Soft skills and adaptability will be key success factors.

understanding how to help business folks understand 'what' IT can do for them by delivering, delivering, delivering at ALL COSTS!!! Equally, business folks must thoroughly understand what they want...train future candidates on how to navigate corp. bureaucracy, understand funding models corps adapt and budget cycles.

Virtualization, Cost savings, and Green IT technologies.

Windows Servers and advanced features (windows servers were a critical area that Ferris neglected when I was a student), exchange and mail servers, network security including firewall and NAT (not just Cisco), cloud (or hosted) applications and services, business decision making

Wireless technology and programming.

With the exponential growth in SmartPhones and Tablets, the need to be able to create applications for these devices is in great demand. HTML5 should be introduced and covered in depth. There should be courses offered relating to Cascading Style Sheets and cross browser support for web development.

Working with offshore / remote organizations

You have to know how to talk to people and document your programming well. These are imperative skills. Organization in programming is key to the success of the business that you support.

English grammar and writing skills were not re-enforced [sic] at the college level.

I don't remember taking classes for the majority of these skills. Things like "ability to adapt" and "ethics" speak more to who you are as a person - not what you learn in a classroom. I learned these skills by choosing wisely when seeking out a professional mentor.

I had the opportunity to excel by learning from mistakes in my time at Ferris in CIS. I still credit some of the failures I had with helping me adapt better to the professional environment outside of school. I learned how to learn at Ferris and the other universities I attended. My experience at Ferris State Univ. was very positive.

I think part of these is what you bring to the table as well. If you aren't an ethical person, taking a class in ethics is not going to impact you.

These were all skills I had coming in to Ferris.

**Please describe what you think are the most important trends for future CIS graduates.**

**What could be done to make the CIS program more effective in preparing students for the future trends in the CIS profession**

A course in debugging existing software would have been great. As an entry level programmer, much of the work assigned is for maintenance - change requests to fix existing bugs. This would provide experience in learning how a program works when there is no documentation, and learning to read other styles of programming, trouble shooting and testing.

Ability to adapt to a changing environment and technology. Instill that they will always have to be willing to learn new technology without support from their employer.

All aspects of logical security and regulatory compliance

Apple.

As a hiring manager of Longitudinal Data Analysts (entry-level to experienced) in Michigan, I have seen very few resumes of FSU CIS graduates. I don't know if they feel prepared to apply for these positions, if they don't make it through our initial screening process, or if they are not applying to State of Michigan positions. I'm not sure what has been done to the programs since I attended in the early 90's. Including business intelligence and data warehousing tracks alongside the traditional programming options would be a good thing if you don't already do that. As a current Master's degree student at an online college, I would have like to see an 100% Online Master's of Science in Business Intelligence option from Ferris.

Bring in more 'real world' exposure. Bring in professionals such as myself and others in the industry to help explain the professional environment. Create and advertise internship programs by partnering with companies. The funding at a corporate level is not what it used to be but integrating this type of program with courses if available would help overall preparation of students. Think outside of the box - offer a service that a group of CIS students could provide under the supervision of Ferris faculty and market that group to companies in the corporate environment. In this environment, it is not unheard of to work remotely on items such as Security provisioning, data entry, or call-center response.

Build experience in Agile techniques Give opportunity to develop mobile device applications

Continued focus on relevant internships, added focus on ethics and business law. Project based course give "real world" development opportunities.

Coordinate the program with the certification track.

drop cobol if you haven't already. focus on design of systems

Encourage networking with people and companies alike as students go through the college experience. Being able to study and learn in school is one thing - an important aspect to push themselves and get the good grades. Getting to know people out in the professional/business world and gaining experience through the possibility of internships has a very vital place in helping them obtain work after college.

encourage students to start keeping a pulse on industry trends. Students should be reviewing trade news (eweek, information week, computer world just to name a few) and be able to report the importance of an article. If students get used to following this sort of news, it makes them much more prepared to adapt to a coming change.

Enterprise level designs and concepts Consumer design and usability

Everything is about change, speed to market, coding cycles, standards, standards, standards, ease of portability. The more flexible a person is to the IT environment the more successful they will become(IE: Jack of all, Master of none)

Ferris should offer programs that expose the students to a broad range of technology but require the student to become proficient in a particular subject area. for example the programming track should train students to be developers with a solid background in coding using advanced techniques rather than exposing them to the same 200 level project in 3 different languages.

Focus on understanding how to solve problems with diverse teams. Emphasize the ability to learn and re-learn after graduation. Integrate the curriculum with the other areas of the business school so that students learn they aren't solving a technology problem but a business one

Get ready for massive scale!

Have employers that are interested in hiring Ferris students. Without that nothing else about the program will help students with their career.

Hire younger professors with more recent job experience

I don't know what the program is like now so I wouldn't now what to suggest.

I think just staying "fresh" and on top of trends in technology. We had some professors that were pretty ancient and they didn't like to think of the box, but in today's world, you have to. I feel communication in today's world is essential. You have to know how to talk to a CIO, discover what they need, be sincere in your ethics, and deliver 100% of what you say you are going to, and if you don't deliver have an explanation as to why and what you are going to do to make that happen. I also think a program/degree for Entrepreneurs would be successful.

I think one of the most important skills is being agile and have the ability to adapt to new technology and always updating skills. Never think that you have all the programming skills that you need.

I think the model has changed from a mainframe environment to a more network pc/unix/linux environment. To focus on 50% on technical skills and 50% on business team building skills. Ethics are taught, but I believe, Christian biblical ethics were do well to be taught.

I would emphasize more project management.

It would be useful to choose a track so that students could focus on a specific area of IT. Networking, database, application programming. I know it's a business college but IT is a skilled trade now.

Keep including current I.T. topics but don't neglect the basics of systems analysis/design and programming that give the student the logical thinking techniques that can be applied to any situation they will encounter.

Look at the trends and build your classes around the trends. ASP.NET and C# are huge right now.

Mainframe development (Cobol, CICS and JCL) back into the required classes for CIS degree.

Make sure classes being taught are based on current trends in IT

Make sure students understand agile techniques like developing user stories for requirements, paired programming, sprints, retrospectives,

Make sure that professors are qualified to teach the courses. When I took the Java programming class, the original professor was off on his sabbatical and the fill-in professor had a Telecommunications and Hardware background. The first day of classes he informed us that he would probably learn more from us students than we would learn from him. This is completely unacceptable.

Make sure the professors are current with the technology industry. Maybe even have adjunct professors that are actually working in the industry so they know what is relevant and what is a waste of time.

More emphasis on SQL and Oracle databases. It project management and some integration with continuous improvement tools.

More presentations.

More programming options.

More project management classes. If students want to be programmers or network administrators, they will join the CS or CNS programs. CIS should focus on managing resources, projects and other high-level organizational work. That said, do not eliminate all of the programming classes because they give IT project managers a better understanding of their projects.

More real world examples in class - There was nothing that prepared me for the ever changing requirements and how to react to those and still meet deadlines to get a project out.

My program did not require an internship, it made it very difficult to find a job having no experience, just a degree.

Need classes to help "techies" learn how to develop people skills. Also, that programming isn't about being competitive but rather working as a team for the success of the business we support.

Networking with employers to find the skills needed for placement.

Not familiar with current program. I graduated in 1974.

Not sure, technology changes each month. I don't know how you can prepare for that, except be ready for change.

offer classes/training in the areas mentioned in 24 above.



Offer minors in different technology areas such as: Cisco CCNP/CCNA, unified communication, datacenter management, VMware virtualization, etc... Just a thought.

Offer the latest technologies. As I said SAP is very much in demand. So much so that most of the SAP development done in the US is done offshore or by Indians here.

Outside research.

Partnerships with software and hardware providers and businesses to make sure the most current technologies are learned and the students have their hands on what the business world is using.

Prepare them for more web based applications and all the infrastructure that supports them from design, development, implementation, migration and support and all things in between.

Provide more leadership and communication skills

Provide students the general knowledge for CIS as well as allowing them to pursue specified knowledge of a business or market. For example, a student might take a C# track for how to program in C#, but by also providing them with a "business or market" track such as health care, they gain an understanding of the market and trends specific to that market which will give them a "leg up" in competing for jobs among experienced hires.

Real-world examples that follow the entire life-cycle of a project (design to implementation) with heavy emphasis on testing and testing tools.

Review off the shelf software solutions to run a business.

Stronger emphasis on certifications. While I don't believe that these are necessarily beneficial once you have established your career I do believe certifications make a big difference when just starting out after graduation.

Students need to adapt to changes.

Students need to see the overall picture, learn structure for how to carry out projects/tasks. Planning, requirements gathering, design, test, approval, cutover and go live.

students should understand that having a thorough understanding of technology doesn't warrant their salary...work'n with the business community does. Strive to understand everything about your customer...so you can present ideas that marry technology with needed solutions. This isn't CRM product based knowledge here...this is striving to understand your customer(s) within your work place and striving to understand what drives them to improve.

Survey's like this to ensure the program is on track. I graduated in 1997, and this is the first survey that I have been sent.

System administration did not receive adequately concentration. A single Unix and Novell class was all that was provided in this field. More in-depth analysis of system specification, design, and maintenance should be emphasis, with coverage of both Windows and the Linux/Unix environment. The management of web based systems are becoming important, so hands on experience in managing these systems is valuable. As an example, if a Java application is not performing adequately, students should be grounded in enough fundamental JVM and system theory to know where to look for bottlenecks, and methods to resolve these issues.

Teach peer level design review and peer code reviews and stress proper grammar, thorough analysis, and ability to offer "professional challenge" to co-workers.

Teach some mainframe skills

Teach students to discern preferred area of expertise and how to track and adapt to changes in that area. Programming languages change even while student is learning and hardware changes even faster. Students must learn to identify relevant changes and be ready to adapt even if initial employment is not cutting-edge.

The biggest challenge over the years has been to identify and adapt to the technology changes. Preparing students to know where and how to identify the trends and changes and how to make the transition.

to ensure students are adaptable

Training for the GIS field might be worth while. I noticed that there is a lot of focus on the software side. Some education on the hardware and networking side would also be good.

Understanding Business Requirements and translating to software deliverables

You should conduct a benchmark study of other CIS or comparable programs at other universities to look for new and emerging trends in the area of technology and offer those classes. More companies are looking for JAVA programmers, the use of Adobe products (Flash, Dreamweaver, etc) and offer more classes in these areas as well.

**Please use this space for any additional comments you wish to make.**

A very important area that I felt the CIS program and Ferris failed to prepare me for was office politics and etiquette, identifying a dead end employer before accepting a position, and when it is best to move on from an employer. Especially in today's employment environment where the office environment and employers demeanor can change rapidly.

Another "skill" that can be taught/practiced is working with people in different countries. In the current IT world, so many jobs have been moved offshore to India, Philippines, etc. These cultures are so very different, and working with this type environment has many unique challenges. Learning COBOL there could be an advantage for US based IT workers - the offshore India workers do not learn it, and there are a lot of old legacy systems around that still need COBOL programmers for maintenance.

As the program manager for Michigan's Education Statewide Longitudinal Data System program I would really like to see more Ferris CIS graduates applying for and receiving positions in the state.

At the time of my graduation the program was the best. A lot has changed since 1985.

At the time, my degree was appropriate for the conditions. It has almost no relation to the conditions of the job I currently hold.

CIS has become not an attractive field for the young. Jobs do not pay well and the pressure to allow H1B workers whom will work for no benefits and reduced wages is a large challenge. That being said I would try to partner with large corporations and align your program to what they need. SAP, Oracle, Microsoft, IBM and Apple development comes to mind and provide certification tracks for your students. I think the field of security, forensics, and PMBOK skills tied to CIS type projects will provide a nice future for the students. I would advise FSU to specialize and make your offerings some thing that will draw students to you and give them a place that they know where they can work?

Good luck!!! its a f'd up mess out here. Business folks aren't as smart as they think and IT folks are just a bunch of tool-smith hacks who know nothing about their customers.

How can I help and become involved in the CIS program at FSU?

I am deeply gratified that I chose to attend Ferris State (instead of staying in the Boston area) to prepare for my life in IT.

I enjoyed my time at Ferris, and learning under the distinctive style of Mr. Andrew Suhy, very enjoyable. Best regards to Mr. Suhy, time in your classes was well spent. Graduate 1994 BIS Computer Information Systems. Todd Zimmer,

I enjoyed my time at FSU and wouldn't change it for anything. I don't program for a living but I feel what I learned helped me get to where I am at now. I own my own computer Education business, and enjoy it very much.

I graduated Ferris in 1975. Most of the skills, programming languages and applications noted in this survey did not exist when I attended Ferris. Therefore, it was difficult to relate to how Ferris prepared me for those disciplines.

I studied cobol in 1993-1995. Worked for 5 years with it, but broke free. I see more emphasis is on modern languages, which is good. I recommend more .NET

I think it is critical for today's CIS graduates to thoroughly understand the Software Development Life Cycle and both Stage-Gate and Agile (Scrum is most popular) development methodologies. It has been quite a while since I attended Ferris, so I'm not sure if the department offers this already. However, offering non-programming tracks within CIS would also be of benefit. These tracks could include the certification necessary for those non-programming individuals, such as Business Analysts (CCBA or CBAP certifications), Product Managers (CPM Certification) Project Managers (PMP Certification), Business Intelligence Analysts (CBIP certification), Quality Assurance & Control.

I think there must be a better emphasis put on internships/externships as a part of the graduation requirements. This will help the student get more "real world" experience that can help them land a job in their field upon graduating successfully from that program.

I valued my time at Ferris State. I met some great faculty, friends and have great memories. It was a great place to learn how to learn.

I was a dual degree (accounting and CIS) so I was able to gain a strong business background. This has been tremendously helpful in my career advancement. The business aspects should be part of course development even for CIS degree programs.

Keep improving the and updating the program. The industry is definitely not standing still.

Many of the technologies mentioned in this survey didn't exist when I was at Ferris - That's why the ratings were so low.

N/A

No additional comments.

Overall, Ferris did an excellent job of giving me the business knowledge I needed. The CIS program did a reasonable job, but focused too heavily on skills and classes that quite honestly I have never used, and probably never will. Cobol, RPG, and the outdated (at the time) Systems Analysis and design classes were ridiculous. This is not a discredit to the professors who taught them, only a suggestion to seriously consider the value of what you're putting in front of students. A big hole in what Ferris was offering when I was a student were Microsoft products.

EVERYBODY uses Microsoft products, and I had only one Windows Server 2003 class - and that was elective. Adding other certification opportunities could really push this program ahead of the pack (not necessarily requirements, but opportunities.) Imagine a student graduating with a BS, as well as a variety of technical certifications that can further demonstrate their skills and value - including Microsoft, CompT IA, and perhaps Cisco, or similar certifications. Don't reinvent the wheel guys, there's a reason why these certifications are so widespread - they're critical for someone just starting out. Give students those opportunities.

Stay up with the times by providing latest software and management solutions.

Thank you for asking for my input.

The business core was solid, the CIS, not so much. I graduated feeling like I was lacking in the CIS space due to terrible classes and mediocre professors. I attended Ferris downtown GR during a time of transitions, and professors explained to us that network admins quit, blah blah blah. A lot of the programs we needed were not working, computer issues, network issues. This was not just one class, but many. Hopefully things are better now!

Understanding how to define metrics or other attributes to document and track a successful project

**CIS GRADUATING SENIORS SECTION**

**Computer Information System Program Review  
Student Evaluation Survey  
Spring 2011**

**PLEASE FILL OUT BOTH SIDES OF THIS SHEET**

**Section I: This section is about the quality of teaching within the CIS department.**

**Please CIRCLE the following choices for this section:**

**1= none of the faculty/ 2=some of the faculty/ 3=most of the faculty/4=all of the faculty/**

**or No Opinion**

1) The CIS faculty are helpful when students have difficulty.	1	2	3	4	no opinion
2) The CIS faculty treat students with respect.	1	2	3	4	no opinion
3) The CIS faculty are fair and impartial in their dealings with the students.	1	2	3	4	no opinion
4) The CIS faculty make students feel free to ask questions, disagree, or express ideas about the course.	1	2	3	4	no opinion
5) The CIS faculty exhibit enthusiasm for the subject.	1	2	3	4	no opinion
6) The CIS faculty clearly state the objectives of their courses in their syllabi.	1	2	3	4	no opinion
7) My CIS advisor was readily available.	1	2	3	4	no opinion

**Section II: This section is about the CIS program as a whole.**

**Please CIRCLE the following choices for this section:**

**1=Strongly Disagree/ 2=Disagree / 3= Neutral / 4=Agree / 5=Strongly Agree**

8) I believe the CIS curriculum has or will prepare me for a job or future studies.	1	2	3	4	5
9) I believe my internship was a valuable experience.	1	2	3	4	5
10) The CIS program has challenged me to think in new ways and to think like a CIS professional.	1	2	3	4	5
11) I received adequate advising from my CIS advisor.	1	2	3	4	5
12) I understand the value of the CIS degree including business related courses.	1	2	3	4	5
13) I feel that more of the content in the CIS curriculum should be taught via the Internet.	1	2	3	4	5
14) I feel that FerrisConnect adds to the overall learning experience.	1	2	3	4	5
15) I felt my previous academic background adequately prepared me to take CIS courses at Ferris.	1	2	3	4	5
16) The CIS curriculum has enhanced my ability to	1	2	3	4	5

read technical information and to learn on my own.					
17) I feel that the CIS degree that I will/have earn(ed), has prepared me for a variety of job opportunities for my career.	1	2	3	4	5
18) I feel that I have the communications skills necessary to be successful on the job.	1	2	3	4	5
18-A) Overall, I am satisfied with the CIS program and it has met my expectations.	1	2	3	4	5

**Section III: This section is about the resources available.**

**1=Strongly Disagree/ 2=Disagree / 3= Neutral / 4=Agree / 5=Strongly Agree**

19) I believe the hardware available for use in CIS courses is adequate.	1	2	3	4	5
20) I believe the software available for use in CIS courses is adequate.	1	2	3	4	5
21) I have taken advantage of the MSDN software agreement that the CIS department has with Microsoft.	YES		NO		

**Section IV. This section is used to gather demographic information.**

22) Gender	MALE	FEMALE
23) I am currently a:		
	1) Freshman	
	2) Sophomore	
	3) Junior	
	4) Senior	
	5) Graduate student	
24) Did you transfer into Ferris?	YES	NO
25) Please specify your major		
	1) Computer Information Systems	
	2) Computer Information Technology	
	3) Computer Network Systems	
	4) Information Security and Intelligence	
	5) Other: (please list):	
26) I am currently pursuing a Bachelor's degree in CIS	YES	NO
27) I am currently pursuing an Associate's degree in CIS	YES	NO
28) I am currently pursuing a minor in CIS	YES	NO

### **Section V: Open ended questions:**

29) FOR CIS MAJORS: What two (or three) significant changes in the CIS program would make the most improvement? Which courses or topics should be added to the curriculum?

30) FOR CIS MAJORS: Please list the top two (or three) aspects of the CIS program that you would not want to see changed because they have served you well.

31) FOR **NON-CIS MAJORS**: WHICH NEW COURSES OR TOPICS WOULD YOU LIKE TO SEE OFFERED BY THE CIS PROGRAM FOR NON-MAJORS?

## Graduating Seniors' Responses

### Faculty helpful

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Most of the faculty	13	86.7	86.7	86.7
	All of the faculty	2	13.3	13.3	100.0
	Total	15	100.0	100.0	

### Faculty respect students

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some of the faculty	2	13.3	13.3	13.3
	Most of the faculty	6	40.0	40.0	53.3
	All of the faculty	7	46.7	46.7	100.0
	Total	15	100.0	100.0	

### Faculty fair

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some of the faculty	1	6.7	6.7	6.7
	Most of the faculty	7	46.7	46.7	53.3
	All of the faculty	7	46.7	46.7	100.0
	Total	15	100.0	100.0	

### Students free to express ideas

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some of the faculty	1	6.7	6.7	6.7
	Most of the faculty	6	40.0	40.0	46.7
	All of the faculty	7	46.7	46.7	93.3
	No opinion	1	6.7	6.7	100.0
	Total	15	100.0	100.0	



**Enthusiastic**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid				
Some of the faculty	3	20.0	20.0	20.0
Most of the faculty	7	46.7	46.7	66.7
All of the faculty	5	33.3	33.3	100.0
Total	15	100.0	100.0	

**Objectives clear**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid				
Some of the faculty	1	6.7	6.7	6.7
Most of the faculty	7	46.7	46.7	53.3
All of the faculty	6	40.0	40.0	93.3
No opinion	1	6.7	6.7	100.0
Total	15	100.0	100.0	

**Advisor available**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid				
Some of the faculty	1	6.7	6.7	6.7
Most of the faculty	3	20.0	20.0	26.7
All of the faculty	11	73.3	73.3	100.0
Total	15	100.0	100.0	

**Will prepare for job**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	13.3	14.3	14.3
	Neutral	1	6.7	7.1	21.4
	Agree	10	66.7	71.4	92.9
	Strongly agree	1	6.7	7.1	100.0
	Total	14	93.3	100.0	
Missing	System	1	6.7		
Total		15	100.0		

**Internship valuable**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	4	26.7	40.0	40.0
	Strongly agree	6	40.0	60.0	100.0
	Total	10	66.7	100.0	
Missing	System	5	33.3		
Total		15	100.0		

**Challenging**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	6.7	7.1	7.1
	Neutral	3	20.0	21.4	28.6
	Agree	8	53.3	57.1	85.7
	Strongly agree	2	13.3	14.3	100.0
	Total	14	93.3	100.0	
Missing	System	1	6.7		
Total		15	100.0		

**Advising adequate**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	13.3	14.3	14.3
	Neutral	2	13.3	14.3	28.6
	Agree	5	33.3	35.7	64.3
	Strongly agree	5	33.3	35.7	100.0
	Total	14	93.3	100.0	
Missing	System	1	6.7		
Total		15	100.0		

**Understand value of degree**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	2	13.3	14.3	14.3
	Agree	4	26.7	28.6	42.9
	Strongly agree	8	53.3	57.1	100.0
	Total	14	93.3	100.0	
Missing	System	1	6.7		
Total		15	100.0		

**More web delivery**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	5	33.3	35.7	35.7
	Neutral	4	26.7	28.6	64.3
	Agree	3	20.0	21.4	85.7
	Strongly agree	2	13.3	14.3	100.0
	Total	14	93.3	100.0	
Missing	System	1	6.7		
Total		15	100.0		

**Blackboard valuable**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	13.3	14.3	14.3
	Neutral	6	40.0	42.9	57.1
	Agree	4	26.7	28.6	85.7
	Strongly agree	2	13.3	14.3	100.0
	Total	14	93.3	100.0	
Missing	System	1	6.7		
Total		15	100.0		

**Prior background helped**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	6.7	7.1	7.1
	Neutral	1	6.7	7.1	14.3
	Agree	8	53.3	57.1	71.4
	Strongly agree	4	26.7	28.6	100.0
	Total	14	93.3	100.0	
Missing	System	1	6.7		
Total		15	100.0		

**Enhanced independent learning**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	13.3	14.3	14.3
	Neutral	3	20.0	21.4	35.7
	Agree	5	33.3	35.7	71.4
	Strongly agree	4	26.7	28.6	100.0
	Total	14	93.3	100.0	
Missing	System	1	6.7		
Total		15	100.0		

**CIS prepares for jobs**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	6.7	7.1	7.1
	Neutral	2	13.3	14.3	21.4
	Agree	8	53.3	57.1	78.6
	Strongly agree	3	20.0	21.4	100.0
	Total	14	93.3	100.0	
Missing	System	1	6.7		
Total		15	100.0		

**Have communication skills**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	2	13.3	14.3	14.3
	Agree	1	6.7	7.1	21.4
	Strongly agree	11	73.3	78.6	100.0
	Total	14	93.3	100.0	
Missing	System	1	6.7		
Total		15	100.0		

**Overall satisfaction with CIS**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	13.3	15.4	15.4
	Neutral	4	26.7	30.8	46.2
	Agree	6	40.0	46.2	92.3
	Strongly agree	1	6.7	7.7	100.0
	Total	13	86.7	100.0	
Missing	System	2	13.3		
Total		15	100.0		

**Hardware adequate**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly disagree	1	6.7	6.7	6.7
Neutral	1	6.7	6.7	13.3
Agree	8	53.3	53.3	66.7
Strongly agree	5	33.3	33.3	100.0
Total	15	100.0	100.0	

**Software adequate**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly disagree	1	6.7	6.7	6.7
Disagree	1	6.7	6.7	13.3
Neutral	2	13.3	13.3	26.7
Agree	6	40.0	40.0	66.7
Strongly agree	5	33.3	33.3	100.0
Total	15	100.0	100.0	

**MSDN used**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly disagree	10	66.7	66.7	66.7
Disagree	5	33.3	33.3	100.0
Total	15	100.0	100.0	

**Gender m=1 f=2**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	11	73.3	73.3	73.3
Female	4	26.7	26.7	100.0
Total	15	100.0	100.0	

**Level 1= fr;5= mast**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Senior	15	100.0	100.0	100.0

## Survey Results for CIS AAS students

### Faculty helpful

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some of the faculty	1	12.5	12.5	12.5
	Most of the faculty	7	87.5	87.5	100.0
	Total	8	100.0	100.0	

### Faculty respect students

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Most of the faculty	7	87.5	87.5	87.5
	All of the faculty	1	12.5	12.5	100.0
	Total	8	100.0	100.0	

### Faculty fair

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some of the faculty	1	12.5	12.5	12.5
	Most of the faculty	4	50.0	50.0	62.5
	All of the faculty	2	25.0	25.0	87.5
	No opinion	1	12.5	12.5	100.0
	Total	8	100.0	100.0	

### Students free to express ideas

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Most of the faculty	6	75.0	75.0	75.0
	All of the faculty	2	25.0	25.0	100.0
	Total	8	100.0	100.0	



**Enthusiastic**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some of the faculty	2	25.0	25.0	25.0
	Most of the faculty	3	37.5	37.5	62.5
	All of the faculty	3	37.5	37.5	100.0
	Total	8	100.0	100.0	

**Objectives clear**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some of the faculty	3	37.5	37.5	37.5
	Most of the faculty	3	37.5	37.5	75.0
	All of the faculty	2	25.0	25.0	100.0
	Total	8	100.0	100.0	

**Advisor available**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some of the faculty	2	25.0	25.0	25.0
	Most of the faculty	1	12.5	12.5	37.5
	All of the faculty	5	62.5	62.5	100.0
	Total	8	100.0	100.0	

**Will prepare for job**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	12.5	14.3	14.3
	Neutral	2	25.0	28.6	42.9
	Agree	3	37.5	42.9	85.7
	Strongly agree	1	12.5	14.3	100.0
	Total	7	87.5	100.0	
Missing	System	1	12.5		
Total		8	100.0		

**Internship valuable**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	2	25.0	66.7	66.7
	Strongly agree	1	12.5	33.3	100.0
	Total	3	37.5	100.0	
Missing	System	5	62.5		
Total		8	100.0		

**Challenging**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	12.5	14.3	14.3
	Neutral	4	50.0	57.1	71.4
	Agree	2	25.0	28.6	100.0
	Total	7	87.5	100.0	
Missing	System	1	12.5		
Total		8	100.0		

**Advising adequate**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	25.0	28.6	28.6
	Neutral	2	25.0	28.6	57.1
	Agree	2	25.0	28.6	85.7
	Strongly agree	1	12.5	14.3	100.0
	Total	7	87.5	100.0	
Missing	System	1	12.5		
Total		8	100.0		

**Understand value of degree**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	12.5	14.3	14.3
	Neutral	3	37.5	42.9	57.1
	Agree	2	25.0	28.6	85.7
	Strongly agree	1	12.5	14.3	100.0
	Total	7	87.5	100.0	
Missing	System	1	12.5		
Total		8	100.0		

**More web delivery**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	12.5	14.3	14.3
	Disagree	2	25.0	28.6	42.9
	Neutral	2	25.0	28.6	71.4
	Agree	2	25.0	28.6	100.0
	Total	7	87.5	100.0	
Missing	System	1	12.5		
Total		8	100.0		

**Blackboard valuable**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	25.0	28.6	28.6
	Neutral	1	12.5	14.3	42.9
	Agree	4	50.0	57.1	100.0
	Total	7	87.5	100.0	
Missing	System	1	12.5		
Total		8	100.0		

**Prior background helped**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	12.5	14.3	14.3
	Neutral	3	37.5	42.9	57.1
	Agree	3	37.5	42.9	100.0
	Total	7	87.5	100.0	
Missing	System	1	12.5		
Total		8	100.0		

**Enhanced independent learning**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	25.0	28.6	28.6
	Neutral	1	12.5	14.3	42.9
	Agree	4	50.0	57.1	100.0
	Total	7	87.5	100.0	
Missing	System	1	12.5		
Total		8	100.0		

**CIS prepares for jobs**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	3	37.5	42.9	42.9
	Agree	4	50.0	57.1	100.0
	Total	7	87.5	100.0	
Missing	System	1	12.5		
Total		8	100.0		

**Have communication skills**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	3	37.5	42.9	42.9
	Agree	2	25.0	28.6	71.4
	Strongly agree	2	25.0	28.6	100.0
	Total	7	87.5	100.0	
Missing	System	1	12.5		
Total		8	100.0		

**Overall satisfaction with CIS**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	4	50.0	57.1	57.1
	Agree	2	25.0	28.6	85.7
	Strongly agree	1	12.5	14.3	100.0
	Total	7	87.5	100.0	
Missing	System	1	12.5		
Total		8	100.0		

**Hardware adequate**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	12.5	14.3	14.3
	Neutral	1	12.5	14.3	28.6
	Agree	4	50.0	57.1	85.7
	Strongly agree	1	12.5	14.3	100.0
	Total	7	87.5	100.0	
Missing	System	1	12.5		
Total		8	100.0		

**Software adequate**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	1	12.5	12.5	12.5
	Agree	6	75.0	75.0	87.5
	Strongly agree	1	12.5	12.5	100.0
	Total	8	100.0	100.0	

**MSDN used**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	25.0	28.6	28.6
	Disagree	4	50.0	57.1	85.7
	Agree	1	12.5	14.3	100.0
	Total	7	87.5	100.0	
Missing	System	1	12.5		
Total		8	100.0		

**Gender m=1 f=2**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	3	37.5	37.5	37.5
	Female	5	62.5	62.5	100.0
	Total	8	100.0	100.0	

**Level 1= fr;5= mast**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Freshman	3	37.5	37.5	37.5
Sophomore	4	50.0	50.0	87.5
Senior	1	12.5	12.5	100.0
Total	8	100.0	100.0	

**Transfer 1=y 2=n**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	3	37.5	37.5	37.5
No	5	62.5	62.5	100.0
Total	8	100.0	100.0	

**AS in CIS 1=y; 2=n**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	8	100.0	100.0	100.0

Comment: how to improve:

Get rid of the need to be certified in A+. Just require to take the class from what I'm told the certification is pointless.

CIT Maybe . DOS

For those that don't have much experience to take more of a beginners class.

I believe the instructors know exactly what needs to be done to make Ferris State an excellent school for tech course.

More professors to choose from, more summer and online classes.

Comment: liked items:

Hands on Hardware.

The teaching style mainly



Comment: how to improve

I have honestly learned nothing in 488 (288) and 489 they were ridiculous

.Net / C# -D working with visual studio! Less group work - More individual work.

A IT capstone course with a coded project worthy of showing to a potential employer. Do not require ISYS 321 for CIS Major as it is everything that all the other courses teach.

Add more technical classes and emphasize technical knowledge.

Aspire to recruit more teachers like James Bandstra. He was the best teacher I've had. Require two internships. One paid and one unpaid. .

Get rid of outdated and unchanging staff. Misinformed instructors teaching irrelevant information about topics they aren't trained in. XML need to be taught.

More hands on work / application to the real world. Professors that have more current real world experience.

More web and more focus actually coding PHP.

Move options for students to increase their technical knowledge. Add: .NET, more advanced Java (another class), SQL reporting tools (crystal reports).

Offer 400+ level classes both semesters. Offer more programming languages more often. Remove requirements to take ISYS 321 or have another option.

PHP is taught with too much emphasis on self learning.

Remove the noisy servers from the teaching classroom. Please make internships easier to find! I looked and begged, for internships. AACSB certification would make this program and college something to be proud of.

Teachers that are up to times with their field. More programming and software development. More networking . Less Business Classes.

Comments: what did you like?

1. Focus on data base management. 2. Business Core.

Data basing, I transferred a large portion of courses, I don't know what else works well here.

Database "Stuff" IBM/MS/Oracle great !! Add choice for C/C++/C#, not just Java.

Emphasis on SQL

Generally, I have worked around any "problems" that came up. Nothing stands out as being great or overly problematic. I go with the flow.

Integration with AITP (would like more in the future too)

Java programming, more classes focusing on documentation methods and project management.

Keep hand on same or even add more, stick to required projects.

Required internship. Required informative interview in BUS 499 with individual in prospective field.

SQL Classes, Networking. The easy teacher.

The emphasis on data bases and software development courses.

## SURVEY RESULTS FOR CIS BS STUDENTS

### Faculty helpful

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some of the faculty	1	3.4	3.4	3.4
	Most of the faculty	23	79.3	79.3	82.8
	All of the faculty	5	17.2	17.2	100.0
	Total	29	100.0	100.0	

### Faculty respect students

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some of the faculty	2	6.9	6.9	6.9
	Most of the faculty	14	48.3	48.3	55.2
	All of the faculty	13	44.8	44.8	100.0
	Total	29	100.0	100.0	

### Faculty fair

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some of the faculty	1	3.4	3.4	3.4
	Most of the faculty	15	51.7	51.7	55.2
	All of the faculty	12	41.4	41.4	96.6
	No opinion	1	3.4	3.4	100.0
	Total	29	100.0	100.0	

**Students free to express ideas**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some of the faculty	1	3.4	3.4	3.4
	Most of the faculty	11	37.9	37.9	41.4
	All of the faculty	16	55.2	55.2	96.6
	No opinion	1	3.4	3.4	100.0
	Total	29	100.0	100.0	

**Enthusiastic**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some of the faculty	4	13.8	13.8	13.8
	Most of the faculty	13	44.8	44.8	58.6
	All of the faculty	12	41.4	41.4	100.0
	Total	29	100.0	100.0	

**Objectives clear**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some of the faculty	3	10.3	10.3	10.3
	Most of the faculty	12	41.4	41.4	51.7
	All of the faculty	13	44.8	44.8	96.6
	No opinion	1	3.4	3.4	100.0
	Total	29	100.0	100.0	

**Advisor available**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some of the faculty	2	6.9	6.9	6.9
	Most of the faculty	4	13.8	13.8	20.7
	All of the faculty	23	79.3	79.3	100.0
	Total	29	100.0	100.0	

**Will prepare for job**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	4	13.8	16.7	16.7
	Neutral	1	3.4	4.2	20.8
	Agree	13	44.8	54.2	75.0
	Strongly agree	6	20.7	25.0	100.0
	Total	24	82.8	100.0	
Missing	System	5	17.2		
Total		29	100.0		

**Internship valuable**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	10	34.5	58.8	58.8
	Strongly agree	7	24.1	41.2	100.0
	Total	17	58.6	100.0	
Missing	System	12	41.4		
Total		29	100.0		

**Challenging**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	6.9	8.3	8.3
	Neutral	8	27.6	33.3	41.7
	Agree	9	31.0	37.5	79.2
	Strongly agree	5	17.2	20.8	100.0
	Total	24	82.8	100.0	
Missing	System	5	17.2		
Total		29	100.0		

**Advising adequate**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	6.9	8.3	8.3
	Disagree	1	3.4	4.2	12.5
	Neutral	4	13.8	16.7	29.2
	Agree	8	27.6	33.3	62.5
	Strongly agree	9	31.0	37.5	100.0
	Total	24	82.8	100.0	
Missing	System	5	17.2		
Total		29	100.0		

**Understand value of degree**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	3.4	4.2	4.2
	Neutral	4	13.8	16.7	20.8
	Agree	8	27.6	33.3	54.2
	Strongly agree	11	37.9	45.8	100.0
	Total	24	82.8	100.0	
Missing	System	5	17.2		
Total		29	100.0		

**More web delivery**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	7	24.1	29.2	29.2
	Disagree	1	3.4	4.2	33.3
	Neutral	9	31.0	37.5	70.8
	Agree	4	13.8	16.7	87.5
	Strongly agree	3	10.3	12.5	100.0
	Total	24	82.8	100.0	
Missing	System	5	17.2		
Total		29	100.0		

**Blackboard valuable**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	5	17.2	20.8	20.8
	Neutral	9	31.0	37.5	58.3
	Agree	7	24.1	29.2	87.5
	Strongly agree	3	10.3	12.5	100.0
	Total	24	82.8	100.0	
Missing	System	5	17.2		
Total		29	100.0		

**Prior background helped**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	3.4	4.2	4.2
	Neutral	5	17.2	20.8	25.0
	Agree	11	37.9	45.8	70.8
	Strongly agree	7	24.1	29.2	100.0
	Total	24	82.8	100.0	
Missing	System	5	17.2		
Total		29	100.0		

**Enhanced independent learning**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	6.9	8.3	8.3
	Neutral	7	24.1	29.2	37.5
	Agree	9	31.0	37.5	75.0
	Strongly agree	6	20.7	25.0	100.0
	Total	24	82.8	100.0	
Missing	System	5	17.2		
Total		29	100.0		

**CIS prepares for jobs**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	6.9	8.3	8.3
	Neutral	4	13.8	16.7	25.0
	Agree	14	48.3	58.3	83.3
	Strongly agree	4	13.8	16.7	100.0
	Total	24	82.8	100.0	
Missing	System	5	17.2		
Total		29	100.0		



**Have communication skills**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	3.4	4.2	4.2
	Neutral	5	17.2	20.8	25.0
	Agree	5	17.2	20.8	45.8
	Strongly agree	13	44.8	54.2	100.0
	Total	24	82.8	100.0	
Missing	System	5	17.2		
Total		29	100.0		

**Overall satisfaction with CIS**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	3	10.3	13.0	13.0
	Neutral	9	31.0	39.1	52.2
	Agree	7	24.1	30.4	82.6
	Strongly agree	4	13.8	17.4	100.0
	Total	23	79.3	100.0	
Missing	System	6	20.7		
Total		29	100.0		

**Hardware adequate**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	3.4	3.4	3.4
	Disagree	4	13.8	13.8	17.2
	Neutral	1	3.4	3.4	20.7
	Agree	15	51.7	51.7	72.4
	Strongly agree	8	27.6	27.6	100.0
	Total	29	100.0	100.0	

**Software adequate**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	3.4	3.6	3.6
	Disagree	3	10.3	10.7	14.3
	Neutral	3	10.3	10.7	25.0
	Agree	14	48.3	50.0	75.0
	Strongly agree	7	24.1	25.0	100.0
	Total	28	96.6	100.0	
Missing	System	1	3.4		
Total		29	100.0		

**MSDN used**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	19	65.5	65.5	65.5
	Disagree	9	31.0	31.0	96.6
	Neutral	1	3.4	3.4	100.0
	Total	29	100.0	100.0	

**Gender m=1 f=2**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	21	72.4	75.0	75.0
	Female	7	24.1	25.0	100.0
	Total	28	96.6	100.0	
Missing	System	1	3.4		
Total		29	100.0		

**Level 1= fr;5= mast**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Freshman	6	20.7	20.7	20.7
	Sophomore	4	13.8	13.8	34.5
	Junior	4	13.8	13.8	48.3
	Senior	15	51.7	51.7	100.0
	Total	29	100.0	100.0	

**Transfer 1=y 2=n**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	18	62.1	62.1	62.1
	No	11	37.9	37.9	100.0
	Total	29	100.0	100.0	

**Computer Major**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Computer Information Systems	17	58.6	60.7	60.7
	Computer Information Technology	7	24.1	25.0	85.7
	Other	4	13.8	14.3	100.0
	Total	28	96.6	100.0	
Missing	System	1	3.4		
Total		29	100.0		

**Non Computer Major**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	24	82.8	82.8	82.8
Accountancy / CIS	1	3.4	3.4	86.2
Advertising	1	3.4	3.4	89.7
CIS/Accountancy	1	3.4	3.4	93.1
Health Info. Mgmt.	1	3.4	3.4	96.6
PGM	1	3.4	3.4	100.0
Total	29	100.0	100.0	

**BS in CIS 1=y; 2=n**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	29	100.0	100.0	100.0

**AS in CIS 1=y; 2=n**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	4	13.8	17.4	17.4
No	19	65.5	82.6	100.0
Total	23	79.3	100.0	
Missing System	6	20.7		
Total	29	100.0		

**Minor in CIS 1=y; 2=n**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	2	6.9	8.7	8.7
No	21	72.4	91.3	100.0
Total	23	79.3	100.0	
Missing System	6	20.7		
Total	29	100.0		

Comment: how to improve:

.Net / C# -D working with visual studio! Less group work - More individual work.

A IT capstone course with a coded project worthy of showing to a potential employer. Do not require ISYS 321 for CIS Major as it is everything that all the other courses teach.

Add more technical classes and emphasize technical knowledge.

Aspire to recruit more teachers like James Bandstra. He was the best teacher I've had. Require two internships. One paid and one unpaid. I have honestly learned nothing in 488 (288) and 489 they were ridiculous.

CIT Maybe . DOS

Get rid of outdated and unchanging staff. Misinformed instructors teaching irrelevant information about topics they aren't trained in. XML need to be taught.

Get rid of the need to be certified in A+. Just require to take the class from what I'm told the cert is pointless.

Have a better teacher for ISYS 288 and 489. Perhaps get some new teachers in the program with new perspectives.

I believe the instructors know exactly what needs to be done to make Ferris State an excellent school for tech course.

I think more computer related classes should be required and less of un-related courses

I would offer a couple of on-line classes and SLA classes MATH 120.

Intro to hardware, intro to servers

More hands on work / application to the real world. Professors that have more current real world experience.

More web and more focus actually coding PHP.

Move options for students to increase their technical knowledge. Add: .NET, more advanced Java (another class), SQL reporting tools (crystal reports).

None

Offer 400+ level classes both semesters. Offer more programming languages more often. Remove requirements to take ISYS 321 or have another option.

PHP is taught with too much emphasis on self.

Remove the noisy servers from the teaching classroom. Please make internships easier to find! I looked and begged, for internships. AACSB certification would make this program and college something to be proud of.

Teachers assistants, more hand on work lessons.

Teachers that are up to times with their field. More programming and software development. More networking . Less Business Classes.

Updating all computer to Windows 7. More online classes

Comment: liked:

1. Focus on data base management. 2. Business Core.

Data basing, I transferred a large portion of courses, I don't know what else works well here.

Database "Stuff" -&gt; IBM/MS/Oracle great !! Add choice for C/C++/C#, not just Java.

Emphasis on SQL

Generally, I have worked around any "problems" that came up. Nothing stands out as being great or overly problematic. I go with the flow.

Hands on Hardware.

I think it is helpful to face the Java classes and seeing Mr. Bandstra leave.

Integration with AITP (would like more in the future too)

Intro to logic, intro to databases.

ISYS 110 and ACCT 201

Java programming, more classes focusing on documentation methods and project management.

Keep hand on same or even add more, stick to required projects.

None

Required internship. Required informative interview in BUS 499 with individual in prospective field.

SQL Classes, Networking. The easy teacher.

The emphasis on data bases and software development courses.

The teaching style mainly

Variety of courses, MSDN software

## SURVEY RESULTS FOR COLLEGE OF BUSINESS FACULTY

### Computer Information Systems APR - Faculty Survey

The CIS Department is conducting a survey of COB faculty to be used in the *Academic Program Review Process for the Computer Information Systems Program*. Please take a few minutes to respond to the following survey questions. Your input will help determine the future direction of the program. All results will be kept confidential.

1. Please rate your level of agreement with each of the following statements.

	Strongly Disagree	Somewhat Disagree	Somewhat Agree	Strongly Agree	NA or Insufficient Knowledge
I am familiar with the CIS major	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am familiar with the CIS minor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel the CIS Degrees/Minor is of benefit to students in FSU's College of Business	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The CIS program's curriculum includes courses relevant to current business practices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am familiar with the student chapter of the AITP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The quality of FSU's CIS program is comparable to the quality found in similar CIS programs across the country	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The facilities and equipment are adequate to meet the instructional needs of the CIS program	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Currently, there is a sufficient number of tenure track faculty teaching within the CIS program to meet student program needs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The CIS program receives adequate funding and resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. What do you think are the ***strengths*** of the Bachelor's in the Computer Information Systems program?

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3. What suggestion(s) do you have to ***improve*** the current Bachelor's in the Computer Information Systems program?

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**4. Please specify the department where you are currently employed.**

- Accounting, Finance, or Information Systems
- Management
- Marketing
- SEHM

**5. How long have you been employed at Ferris State University?**

- 5 yrs or less
- 6-10 yrs
- 11-15 yrs
- 16-20 yrs
- 21 or more yrs

**6. What is your gender?**

- Male
- Female

**7. Please use this space for any additional comments you would like to make.**

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**Thank you for completing this survey.**



## SURVEY RESULTS FOR COLLEGE OF BUSINESS FACULTY

### I am familiar with the CIS major

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	7.1	7.1	7.1
	Somewhat Disagree	2	7.1	7.1	14.3
	Somewhat Agree	12	42.9	42.9	57.1
	Strongly Agree	9	32.1	32.1	89.3
	NA or Insufficient Knowledge	3	10.7	10.7	100.0
	Total	28	100.0	100.0	

### I am familiar with the CIS minor

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	7.1	7.1	7.1
	Somewhat Disagree	4	14.3	14.3	21.4
	Somewhat Agree	11	39.3	39.3	60.7
	Strongly Agree	8	28.6	28.6	89.3
	NA or Insufficient Knowledge	3	10.7	10.7	100.0
	Total	28	100.0	100.0	

### I feel the CIS Degrees/Minor is of benefit to students in FSU's College of Business

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	7.1	7.4	7.4
	Somewhat Agree	4	14.3	14.8	22.2
	Strongly Agree	17	60.7	63.0	85.2
	NA or Insufficient Knowledge	4	14.3	14.8	100.0
	Total	27	96.4	100.0	
Missing	System	1	3.6		
Total		28	100.0		

**The CIS program's curriculum includes courses relevant to current business practices**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	2	7.1	7.1	7.1
Somewhat Disagree	2	7.1	7.1	14.3
Somewhat Agree	8	28.6	28.6	42.9
Strongly Agree	12	42.9	42.9	85.7
NA or Insufficient Knowledge	4	14.3	14.3	100.0
Total	28	100.0	100.0	

**I am familiar with the student chapter of the AITP**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	2	7.1	7.1	7.1
Somewhat Disagree	4	14.3	14.3	21.4
Somewhat Agree	9	32.1	32.1	53.6
Strongly Agree	6	21.4	21.4	75.0
NA or Insufficient Knowledge	7	25.0	25.0	100.0
Total	28	100.0	100.0	

**The quality of FSU's CIS program is comparable to the quality found in similar CIS programs across the country**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	1	3.6	3.6	3.6
Somewhat Disagree	2	7.1	7.1	10.7
Somewhat Agree	7	25.0	25.0	35.7
Strongly Agree	9	32.1	32.1	67.9
NA or Insufficient Knowledge	9	32.1	32.1	100.0
Total	28	100.0	100.0	

**The facilities and equipment are adequate to meet the instructional needs of the CIS program**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Disagree	3	10.7	10.7	10.7
	Somewhat Agree	12	42.9	42.9	53.6
	Strongly Agree	6	21.4	21.4	75.0
	NA or Insufficient Knowledge	7	25.0	25.0	100.0
	Total	28	100.0	100.0	

**Currently, there is a sufficient number of tenure track faculty teaching within the CIS program to meet student program needs**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	17.9	18.5	18.5
	Somewhat Disagree	2	7.1	7.4	25.9
	Somewhat Agree	6	21.4	22.2	48.1
	Strongly Agree	6	21.4	22.2	70.4
	NA or Insufficient Knowledge	8	28.6	29.6	100.0
	Total	27	96.4	100.0	
Missing	System	1	3.6		
Total		28	100.0		

**The CIS program receives adequate funding and resources**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	7.1	7.4	7.4
	Somewhat Disagree	4	14.3	14.8	22.2
	Somewhat Agree	10	35.7	37.0	59.3
	Strongly Agree	4	14.3	14.8	74.1
	NA or Insufficient Knowledge	7	25.0	25.9	100.0
	Total	27	96.4	100.0	
Missing	System	1	3.6		
Total		28	100.0		

**Please specify the department where you are currently employed.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Accounting, Finance, or Information Systems	13	46.4	46.4	46.4
	Management	8	28.6	28.6	75.0
	Marketing	7	25.0	25.0	100.0
	Total	28	100.0	100.0	

**How long have you been employed at Ferris State University?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	5 yrs or less	4	14.3	14.3	14.3
	6-10 yrs	8	28.6	28.6	42.9
	11-15 yrs	1	3.6	3.6	46.4
	16-20 yrs	2	7.1	7.1	53.6
	21 or more yrs	13	46.4	46.4	100.0
	Total	28	100.0	100.0	

**What is your gender?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	17	60.7	60.7	60.7
	Female	11	39.3	39.3	100.0
	Total	28	100.0	100.0	

**What do you think are the strengths of the CIS Bachelor's degree?**

Faculty

FSU reputation

Hands on problem solving curriculum

Hands on.

I don't have information enough to answer this question

It provides courses that help graduates get high paying jobs in Michigan and throughout the country.

The emphasis placed on passing industry exams

Required Internships, lot of hands-on projects, strong IT skills as well as strong understanding of business field.

Active RSO (AITP) giving students lot of networking opportunities, and exposure to IT companies.

Strong market recognition, required internships, excellent faculty

The CIS program has traditionally had a strong reputation in Michigan. It has been oriented toward the work place needs in a way that business people tell me, is superior to other colleges and universities.

No clue.

### **Comments: How would you improve the CIS program?**

\$\$\$ for faculty update

Add phone programming and ERP.

Flexibility and updatability in curriculum in order to meet industry demands. New adjunct agreements might allow for experienced professionals to make an impact within the faculty group.

Hire qualified faculty.

Hire younger faculty with recent work experience

I not familiar enough with the program, other then the quality of the faculty, to make a suggestion.

I don't have information enough to answer this question

Keep current with workplace needs. Develop relationships with business that are outside of the state of Michigan.

More marketing of the program, mo investment in technology for program.

Program must continue to seek out opportunities to keep program fresh and current with technology.

Require faculty to keep current with new software

They need a higher profile -- other than to say hello in the hall to a few faculty, I know next to nothing about what they do.

### **Please use this space for any additional comments:.**

Good people good degree.

Great program!

There are courses within the college that CIS students would largely benefit. Some courses in the CIS program could be updated and adjusted to benefit other programs. Faculty experienced in UX methods could help!

Important to bring in new faculty with real world experience and motivation to expose student to latest technology trends.

None

**Academic Program Review Survey of CIS Program Faculty**  
**Open-ended instrument shown below**

=====

**Academic Program Review Survey of CIS Program Faculty**

- 1) Discuss the adequacy of clerical support for the program.
  
- 2) Discuss the adequacy of administrative support for the program.
  
- 3) Is the department run in an efficient manner?  
Please explain.
  
- 4) Is the program run in an efficient manner?  
Please explain.
  
- 5) Are class and teaching schedules effectively and efficiently prepared? Please comment.
  
- 6) Are students able to take the courses they need in a timely manner? Please comment.

## Results of CIS faculty survey

1) Discuss the adequacy of clerical support for the program.

Our secretary is great.

Clerical support has always been limited to mainly the department head. No real clerical help at the program level.

No complaints. They're doing a good job in supporting us.

It would be better to have one more person.

I think it is adequate.

It is good.

2) Discuss the adequacy of administrative support for the program.

The level of adequacy of this criteria is decent.

Too much is asked of them.

More and more work for the program continues to be moved to the faculty

I think it is adequate.

Need more marketing support.

Administration is not very supportive.

3) Is the department run in an efficient manner?

Please explain.

Yes, it is with some concerns. Overall, I'm satisfied.

For the most part.

Always room for improvement

With the help of a program champion, I think it is run efficiently.

Yes.

Could be better.

4) Is the program run in an efficient manner?  
Please explain.

Yes; would be better with fewer meetings.

Too many program meetings. With 30 program meetings per year added to the department meetings, college meetings and senate meetings, not much time for other faculty committees. Having program meetings once a month would be more efficient.

With our current program champion, I think the program is run in a very efficient manner.

We have worked hard to improve our program continuously, therefore I see some optimistic future in our CIS program.

For the most part.

Room for improvement.

5) Are class and teaching schedules effectively and efficiently prepared? Please comment.

Yes, there are no surprises in what, when I will be teaching. There is usually consultation prior to any major changes.

Satisfied with the mixed schedule of online/blended/and face to face.

Per the governor and others, fewer days on campus; two and three day schedule format.

OK

Yes

OK

6) Are students able to take the courses they need in a timely manner? Please comment.

I think so with some concerns. ISYS 489 is being offered only in spring semester, then fewer had difficulties in their graduation plan.



For the most part, but being able to run smaller classes would improve education and make the program more popular.

Most of the time.

Yes, I think so. It is published what classes are offered each semester.

Yes. It would be better if we had a higher enrollment, so that we could offer them more often.

Yes.

## CIS ADVISORY BOARD SURVEY INSTRUMENT

<b>CIS ADVISORY BOARD MEETING OCTOBER 1, 2010</b>						
<b>Please complete this survey. It will be used by the university to evaluate our program and is a valuable tool for planning and continuous improvement.</b>						
	<b>Please check only <u>ONE</u> box to the right of each question.</b>	<b>strongly disagree</b>	<b>disagree</b>	<b>agree</b>	<b>strongly agree</b>	<b>no opinion</b>
1	Network analysis and design skills are important in your organization.					
2	IT security is an important skill in your organization.					
3	Programming is an important IT skill in your organization.					
4	Help desk skills are important in your organization.					
5	Systems analysis and design skills are important in your organization.					
6	Web application development skills are important in your organization.					
7	Project management skills are important in your organization.					
8	Database skills are important in your organization.					
9	Many of your applications are migrating to the Internet.					
10	Starting salaries for IT positions are expected to exceed inflation during the next 12 months in your organization.					
11	During the last 12 months your organization has outsourced IT jobs.					
12	Your organization used cloud computing during the last 12 months.					
13	The number of full-time IT positions at your company has decreased in the last 12 months.					
14	Your organization plans to increase the use of cloud computing during the next 12 months.					
	<b>FERRIS INTERNS, GRADUATES, AND FACILITIES</b>					
15	FSU CIS graduates have strong technical skills.					
16	FSU CIS graduates have strong presentation skills.					
17	FSU CIS graduates have strong writing skills.					
18	FSU CIS graduates have strong business skills.					
19	Overall, your organization is satisfied with FSU CIS interns.					

20	Overall, your organization is satisfied with FSU CIS graduates that were hired for full-time positions.					
21	The FSU CIS program needs to upgrade its equipment and facilities to remain competitive.					

22	Please describe the technological trends you believe will emerge during the next 5 years.

23	What are the strengths of the current FSU CIS curriculum?

24	What are the weaknesses of the current FSU CIS curriculum?

25	How can FSU improve its CIS program?

26	How can FSU improve the employment prospects of its CIS graduates?

**Thank you!**

## CIS ADVISORY BOARD RESPONSES

### Network skills

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	3	30.0	42.9	42.9
	Strongly agree	4	40.0	57.1	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

### IT security

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	2	20.0	28.6	28.6
	Strongly agree	5	50.0	71.4	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

### Programming skills

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	10.0	14.3	14.3
	Agree	4	40.0	57.1	71.4
	Strongly agree	2	20.0	28.6	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**Help desk skills**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	10.0	14.3	14.3
	Agree	5	50.0	71.4	85.7
	Strongly agree	1	10.0	14.3	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**Systems Analysis**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	4	40.0	57.1	57.1
	Strongly agree	3	30.0	42.9	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**Web applications**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	10.0	14.3	14.3
	Agree	3	30.0	42.9	57.1
	Strongly agree	3	30.0	42.9	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**Project Mgt**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	1	10.0	14.3	14.3
	Strongly agree	6	60.0	85.7	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**Database skills**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	3	30.0	42.9	42.9
	Strongly agree	4	40.0	57.1	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**Migrated to web**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	10.0	14.3	14.3
	Agree	1	10.0	14.3	28.6
	Strongly agree	4	40.0	57.1	85.7
	No opinion	1	10.0	14.3	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**Salary increases**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	10.0	14.3	14.3
	Agree	2	20.0	28.6	42.9
	No opinion	4	40.0	57.1	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**Outsourced jobs**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	10.0	14.3	14.3
	Disagree	4	40.0	57.1	71.4
	Strongly agree	2	20.0	28.6	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**Used cloud computing**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	3	30.0	42.9	42.9
	Agree	1	10.0	14.3	57.1
	Strongly agree	2	20.0	28.6	85.7
	No opinion	1	10.0	14.3	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**Decrease IT jobs**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	30.0	42.9	42.9
	Disagree	3	30.0	42.9	85.7
	Strongly agree	1	10.0	14.3	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**Will increase cloud computing**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	10.0	14.3	14.3
	Disagree	2	20.0	28.6	42.9
	Agree	1	10.0	14.3	57.1
	Strongly agree	2	20.0	28.6	85.7
	No opinion	1	10.0	14.3	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**FSU CIS Grads strong tech skills**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	20.0	28.6	28.6
	Agree	1	10.0	14.3	42.9
	Strongly agree	1	10.0	14.3	57.1
	No opinion	3	30.0	42.9	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		



**FSU CIS Grads strong presentation skills**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	3	30.0	42.9	42.9
	Strongly agree	1	10.0	14.3	57.1
	No opinion	3	30.0	42.9	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**FSU CIS Grads strong writing skills**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	3	30.0	42.9	42.9
	Strongly agree	1	10.0	14.3	57.1
	No opinion	3	30.0	42.9	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**FSU CIS Grads strong business skills**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	4	40.0	57.1	57.1
	No opinion	3	30.0	42.9	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**Overall satisfaction with FSU CIS interns**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	3	30.0	42.9	42.9
	No opinion	4	40.0	57.1	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**Overall satisfaction with FSU CIS graduates**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	3	30.0	42.9	42.9
	Strongly agree	1	10.0	14.3	57.1
	No opinion	3	30.0	42.9	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

**CIS needs equipment upgrades**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	10.0	14.3	14.3
	Agree	2	20.0	28.6	42.9
	Strongly agree	1	10.0	14.3	57.1
	No opinion	3	30.0	42.9	100.0
	Total	7	70.0	100.0	
Missing	System	3	30.0		
Total		10	100.0		

## 5 YEAR TRENDS

Absolutely cloud computing, virtualization.

Less outsourcing.

Mobile apps, SOA

Mobile platform applications. Job becomes more assembling parts instead of coding & developing. Human interaction changes to be more natural-much more use of touch. voice, gestures in the future. Continued evolution of social network types of software and integrational touch points with business software.

More emphasis on cloud computing. More integration with health care and this technology to facilitate and implement health care services.

Object oriented programming, mobile computing apps, cloud computing

Virtualization. More apps moved to web.

## What are CIS strengths?

Business acumen gained and foundational technical skills targeted to industry needs.

Business based systems analysis/ design.

Hands-on courses that match real world jobs.

IT married with business internships.

Mix of business and technical skills. Good emphasis on application- not just theory. Require internship which gives practical experience.

More hands-on versus theory. Today's business world demands people that can add value immediately.

Strengths are on the applied side.

## What are CIS weaknesses?

Continue to address industry trends.

Maintaining networks with organizations.

None

Not sure. I focus on strength and to me it looks great.

Time required to adjust to business trends.

## How to improve CIS?

Continue to address industry trends.

Continue to solicit the advisory board, preferably more often.

I think the CIS program is on the right track.

I wonder if you simplify the tracks in to governance, program/project delivery, and technical track, if it would make it easier for students to design their curriculum. It seems like having 17 tracks

Introduce Agile concepts: Scrum, lean, test driven development, iterative development, continuous integrations.

### How to improve job prospects for FSU CIS Grads?

Continue to engage employers and promote the success of FSU grads.

Employers harp on social and communication skills.

Express the applied side to employers.

None

Retain programming classes. Retain personal productivity classes.

See # 24, need to do better job of networking with organizations and creating awareness of the CIS degree at Ferris.

## APPENDIX B

### Faculty Vita

#### **Amy Buse *Professor***

College of Business Office BUS 128/328  
(231) 591-5435  
[busea@ferris.edu](mailto:busea@ferris.edu)

#### **Professional activities and areas of interest**

Professor Buse joined Ferris State University in August of 1995 as the Computer Resource Manager for the Business/Technology Consortium . During her five years as a manager, she had responsibility for all computer related functions for both the College of Business and the College of Technology. In August of 2000 she joined the Computer Information Systems Department as a faculty member.

Prior to coming to Ferris, Amy had 13 years experience teaching math and computer science at the high school level.

Professor Buse's area of interest is in networking, and she loves helping students discover how networks function. Professor Buse believes that all students can succeed, and she will work as hard as the student to ensure their success. She uses a learner centered approach in her classroom, striving to ensure that students will "learn how to learn." This methodology is intended to give students the ability to be successful no matter what path they choose.

#### **Education**

B.S. Mathematics/Computer Science, Central Michigan University  
M.S. Computer Science, Central Michigan University  
D.B.A. Information Systems, Argosy University

## **Jung Choi Assistant Professor**

College of Business Office IRC 224

(231) 591-3147

[Jung\\_Y\\_Choi@ferris.edu](mailto:Jung_Y_Choi@ferris.edu)

### **a) Professional activities and areas of interest**

Professor Choi teaches computer information system subjects such as Business Information Systems and Micro Systems and Software. His teaching interest is in the area of systems analysis and design, systems development and implementation, and IT project management. His research focuses on software measurement, IT project size and cost estimation, enterprise systems integration, and Financial Supply Chain Management. His publications have appeared in Information Systems Journal, Enterprise Information Systems Journal, and Journal of Computer Information Systems. He has consulted with the state government retirement systems of Ohio in the design of IT architecture and health care application development. Prior to his academic career he was a senior CASE analyst at STRS Ohio, Columbus, Ohio and a system engineer at EDS, Plano, Texas.

### **Education**

August 1997 Ph.D., Business Administration, The University of Texas-Arlington Campus, Arlington, Texas  
Major: Management Information Systems (MIS) Minor: Accounting Dissertation: A Model for Estimating Software Size for Large-scale Business Applications, in the area of software measurement December 1985  
MBA, MIS Concentration, The University of Houston, Houston, Texas December 1983 B.A., Accounting, The University of Houston, Houston, Texas

## **Clyde Hardman Associate Professor, CIS and CIT Program Champion**

College of Business Office BUS 318  
(231) 591-2822  
[hardmanc@ferris.edu](mailto:hardmanc@ferris.edu)

### **b) Professional activities and areas of interest**

Professor Hardman has been with Ferris State University since 1984, teaching in the area Computer Information Systems. Currently, professor Hardman has been teaching in the area of Networking, Software Systems, and Database. He is a faculty advisor for AITP (Association of Information Technology Professionals) student group. Also, Professor Hardman is the student advisor for the CIS programs Off-campus at Southwestern Community College, Muskegon Community College, Grand Rapids Community, and Northwestern Community College. Professor Hardman's teaching philosophy is that in each course students need to understand that they are now professionals and must perform at a professional level in all aspects, especially oral and written communications, attendance, and most of all attitudes. Even though technical skills are important to their career, their communication skills will have the most impact on their success.

### **Education**

Master of Business Administration - Grand Valley State University  
Bachelors of Science in Computer Information Systems - Ferris State University  
Bachelors of Science in Accounting - Ferris State University  
Certificate in IBM iSeries Computer Programming

## **Richard Hewer *Associate Professor***

College of Business Office BUS 348  
(231) 591-2455  
[Hewerr@ferris.edu](mailto:Hewerr@ferris.edu)

### **Professional activities and areas of interest**

Professor Hewer teaches Computer Information Systems courses.

### **Education**

B.B.A., University of Michigan-Dearborn

M.B.A., Grand Valley State University

## **Warner Myntti *Associate Professor***

College of Business Office BUS 326  
(231) 591-2456  
[Warner\\_Myntti@ferris.edu](mailto:Warner_Myntti@ferris.edu)

### **Professional activities and areas of interest**

Professor Myntii teaches courses in the Computer Information Systems Department.

### **Education**

B.S., Tarkio College, Tarkio, MO M.B.A., Lindenwood College, St. Charles, MO M.S., Information Systems Management, Ferris State University, MI



## **Harold Palmer *Professor***

College of Business Office IRC 212 N  
(231) 591-3165  
[Palmerh@ferris.edu](mailto:Palmerh@ferris.edu)

### **Professional activities and areas of interest**

Dr. Palmer is a member of DAMA and ACM. He teaches the database, systems analysis and design, Business Information Systems classes and various other classes within the discipline of information systems. He has been Chair of the Computer Information Systems Department and has also been chair of the University Curriculum Committee and has served on numerous university, college and department committees. Dr. Palmer's research interests include data warehousing, metadata, collaborative development, quality standards and knowledge management.

### **Education**

Ph.D. Information Systems Nova Southeastern University M. A. History Western Illinois University B. A. Psychology Southern Illinois University

## **Andrew Suhy Professor**

College of Business Office BUS 330  
(231) 591-2453

[Andrew\\_M\\_Suhy@ferris.edu](mailto:Andrew_M_Suhy@ferris.edu)

### **Professional activities and areas of interest**

Dr. Suhy teaches courses in computer information systems within the Accounting, Finance, and Information Systems Department. Most recently, Dr. Suhy has taught Database Systems, Visual Basic, Project Management, Internet Systems, and Microcomputer Applications. Research interests include applied and theoretical information systems that have a business orientation. Other computing interests include ecommerce systems, large system designs, and evolving trends in information systems.

### **Education**

Ph.D. University of Michigan, Ann Arbor

M.Ed. Harvard University

M.A. University of Chicago

B.A. Northwestern University

## **APPENDIX C**

### **Course Syllabi**

## ISYS 105 Spring 2011

<b>Instructor:</b> Richard Hewer	<b>Office:</b> Business 348	<b>Office Hours:</b> MWF 12pm-1pm MW 2pm-3pm	<b>Phone:</b> 231-591-2455	<b>Email:</b> hewerr@ferris.edu I prefer you use the in-class e-mail in FerrisConnect.
<b>Course Objectives:</b> Upon completion of this course each student will have completed twelve lessons and twenty-four quizzes over all aspects of Microsoft Office 2007. The students will have a general knowledge of how to create and manipulate documents and files in Microsoft Office 2007: Word, Excel and PowerPoint.			<b>Prerequisite:</b> This course covers a full semester and no prerequisites are necessary.	
			<b>Text:</b> Go! Office 2007 including: Word, Excel, PowerPoint, and your myitlab password.	
<b>Teaching Methods:</b>  <b>Assignments:</b> Review assignments, case problems, and readings will be periodically assigned to help support and supplement material found in the text. These assignments will require the application of Microsoft Office 2007.  <b>Quizzes:</b> Quizzes will be given regularly to help ensure students stay current with the assigned material. The quizzes will be open book.  <b>Tests</b> A test will be given at the end of each section. Tests are open book. Tests will be given in class and there will be <b>NO MAKEUPS</b> .  <b>Projects:</b> Projects will be given for each of the major areas of study (Word (1), Excel (3), PowerPoint (1) & Combination (1).)  <b>Exams:</b> One final exam will be given at the end of the course.  <b>Internet:</b> All material will be distributed on the class web site. Class notes, instructional material, and student assignments will be posted on this class website.			<b>Assignments:</b> Due dates are posted on the course calendar. If they are turned in on the due date, you may receive up to 100% of the points available. If they are turned in from 1 minute to 7 days after the due date, you may receive up to 70% of the points available. If they are turned in from 7 days to 14 days after the due date, you may receive up to 50% of the points available.  <b>Attendance:</b> Attendance is required. Students will lose 5 points for every class missed over 3.	
			<b>Grading:</b> Letter grades will be determined using a standard percentage point evaluation as outlined below.  A = 93% - 1395 Points A- = 90% - 1350 Points B+ = 87% - 1305 Points B = 83% - 1245 Points B- = 80% - 1200 Points C+ = 77% - 1155 Points C = 73% - 1095 Points C- = 70% - 1050 Points D+ = 67% - 1005 Points D = 63% - 945 Points D- = 60% - 900 Points F = Below 60%	Grade will be computed using the following points.  <b>Lessons - 240</b> <b>Quizzes - 240</b> <b>Section Tests - 300</b> <b>Projects - 520</b> <b>Final Exam - 200</b> <b>TOTAL - 1,500</b>

# ISYS 110

## Fundamentals of Computer Information Systems

### COURSE SYLLABUS

**Instructor:** Jim Bandstra

**Office:** IRC 212T

**Office Hours:** MWF – 2:00-4:00

**Phone:** 591-3169

**Home:** 796-2508

**E-Mail:** bandstrj@ferris.edu

**Course Description:** The programming component introduces fundamental programming and development concepts, data types and variables, instruction sets, number systems, flow control and logical operations, modularity and structure, and object-oriented programming. This course will include the use of the Java programming language as a tool to teach program design. The Internet component introduces moving files with FTP, and creating web pages using HTML

**Prerequisite:** ISYS 105 or demonstrated competency

**Credits:** 3

**Outcomes:** Upon successful completion of this course, the student will:

1. Describe the purpose of a program with respect to its inputs, processing, and outputs.
2. Explain the program life cycle including user requirements, analysis and design, coding, compilation, testing, documentation, and maintenance.
3. Describe the use of common data types, variables, and operations within a program.
4. Explain how the binary, octal, and hexadecimal number systems are used to represent data.
5. Use pseudo-code to specify flow control and logical operations within a program.
6. Explain the importance of modularity and structure including the use of objects and methods.
7. Understand the basic tag system of HTML.
8. Use basic HTML text layout tags including <P> and <div>.
9. Use HTML table tags to display tabular information and control page layout.
10. Understand and use HTML form tags.
11. Use Cascading Style Sheets (CSS) to control font type, style, size, and color.

**Required Book(s) and Supplies:** Programming Logic & Design, 2<sup>th</sup> Edition by Tony Gaddis and HTML and XHTML, 5<sup>th</sup> Edition by Patrick Carey

**Other Resources:** At least 1 flash drive,

**Attendance Policy:** Attendance is critical to success in this course and will be a factor in determining student grades

**Grading Criteria:**

<b>Classroom and Lab Exercises</b>	<b>30% Projects</b>
<b>30% Exams</b>	<b>40%</b>
	<b>100%</b>

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**Course Outline**

<b><u>Week</u></b>	<b><u>Chapter</u></b>	<b><u>Topic</u></b>
08/30/10	HTML – Tutorial 1	Developing a Basic Web Page
09/06/10	HTML – Tutorial 2	Developing a Basic Web Site
09/13/10	HTML – Tutorial 3 & 4	Working with Cascading Style Sheets &
	Creating Special Effects with CSS	
09/20/10	HTML – Tutorial 5	Working with Web Tables
09/27/10	PL – Chapter 1	Compiling and Executing a Program
10/04/10	PL – Chapter 2	Variables and Input, Calculations, Declaring
		Variables
10/11/10	PL – Chapter 3	Defining and Calling a Module, Passing Arguments
10/18/10	PL – Chapter 4	Making Decisions
10/25/10	PL – Chapter 5	Looping
11/01/10	PL – Chapter 6	Writing a Function
11/08/10	PL – Chapter 7	Input Validation Loop
11/15/10	PL – Chapter 8	Arrays
11/22/10	PL – Chapter 10	Using Loops to Process Files
11/29/10	PL – Chapter 14	Classes and Objects
12/06/10	PL – Chapter 15	Graphical User Interfaces
12/15/10	Wednesday, Dec 15	Final Exam – 12:00 – 01:40

**ISYS 200**  
**Database Design & Implementation 3 Credits**  
**Spring 2011**

**Instructor** Dr. Andrew Suhy

**Office** BUS 330

**Office hours** MONDAYS AND WEDNESDAYS  
12:00 – 2:00 P.M.

**Phone** (231) 591-2453

**Email** Please use FerrisConnect email. Alternate: [suhya@ferris.edu](mailto:suhya@ferris.edu)

**Prerequisites:** ISYS 105

**Course Description:**

This course introduces the basic concepts of relational databases, tables, records, and fields. It is an introduction to database design and implementation using Microsoft Access. Relational database structures, beginning and intermediate query, form, report, and web publishing facilities are demonstrated and utilized.

**Course Objectives:**

Upon successful completion of this course, the student will:

1. Understand the basic concepts of relational databases.
2. Create tables, define data types, create data input rules and define relationships between tables.
3. Use automated query, form, report, and web publishing tools in Access.
4. Create multiple query types in Access that include various selection criteria.
5. Create forms in Access from tables and queries that include subforms.
6. Create reports in Access from tables and queries that include subreports.
7. Demonstrate the ability to integrate tables, queries, reports, and web publishing for use in database management.

**Course Outcome Measurements:**

The class meets for lecture, discussion, demonstrations, and labs. Each student is responsible for reading each chapter and completing the computer assignments and taking the midterm and final examinations.

## Required Materials:

- 1) Purchase **two thumb drives**.
- 2) Purchase Textbook:

*Microsoft Office Access 2007*

By Joseph J. Adamski & Kathleen T. Finnegan

Course Technology ISBN 13:978-1-4239-0588-2

## Grading:

Exercises / Projects	60%
Tests	40%
Total	100%

(Midterm is worth 10%, final is 30%. The final exam is cumulative).

## Instructor's policies:

- 1) **Attendance** will be taken at unannounced intervals. There is a 3 percent per day penalty deducted from your final course grade for each unexcused absence. Requests for an excused absence must be submitted IN WRITING **BEFORE** the scheduled event via FerrisConnect email. Upon your return to class you will also need to provide a paper document that verifies the excused event, e.g. field trip, jury duty, doctor's note etc.
- 2) All lab assignments are due at the end of class. **For lab assignments submitted one minute after class until 10:00 P.M. there is a 20% penalty. After 10:00 P.M. late assignments will receive a zero.**
- 3) There is a 20% per calendar day lateness penalty for the final project.

## Ferris Connect Notices:

Students are required to check their Ferris Connect email before coming to class to check for any important class announcements.

Reading assignments also will be posted in FerrisConnect.

## Deadlines

**For FerrisConnect assignments submitted one minute after the deadline until 10:00 P.M. there is a 20% penalty. After 10:00 P.M. late assignments will receive a zero.**

There is a 20% per calendar day lateness for the final project.

## Classroom Behavior

Students are expected to behave in an appropriate manner. Behavior that is inappropriate in a college environment such as repeated conversations with classmates, smoking, cracking gum, using a cell phone or other non-lab electronic device in class, surfing the web during a lecture, drinking, or otherwise disrupting class will result in 10% being deducted from the student's final grade.



## Academic Integrity

Submitting another person's work as your own is an example of academic dishonesty and will be treated as such. At Ferris the penalty ranges from a minimum of receiving a zero for the assignment to expulsion from the university depending on the severity of the offense.

### Grading Scale:

93-100%	A	73-76 %	C
90-92%	A-	70-72 %	C-
87-89%	B+	67-69 %	D+
83-86%	B	63-66 %	D
80-82%	B-	60-62 %	D-
77-79%	C+	59-below	F

**Instructor reserves the right to modify the syllabus as necessary. The current version of the syllabus will be posted on Ferris Connect. (1/10/2011)**

## ISYS 204 INTRODUCTION TO VISUAL BASIC FALL 2010

**Instructor:** Andrew Suhy  
**Office:** Business 330

**Office Hours:**  
Monday and Wednesday  
1:30 P.M. to 3:30 P.M.

**Phone:**  
231-591-2453

**E-mail:**  
I prefer you use FerrisConnect class e-mail. Alternate email [suhya@ferris.edu](mailto:suhya@ferris.edu)

### **Course Objectives:**

The purpose of this course is to provide an introduction to the fundamentals of computer programming and logic through an exposure to Visual BASIC 2008.

### **Prerequisite:**

ISYS 105 or equivalent.  
This course covers a full semester.

**Text:** Deitel and Deitel. Simply Visual Basic 2008

In addition to the textbook students **MUST** have 2 thumb drives (flash drives) for saving class work on a regular basis. Students are required to systematically organize and preserve all assignments done in this class in a secondary storage device that is available to them at all times.

**Course outcomes:** Upon successful completion of this course, the student will:

- 1) Understand problem solving.
- 2) Understand programming logic and algorithms.
- 3) Object Oriented programming logic and concepts.
- 4) Fundamentals of programming in Visual Basic
- 5) Numeric, character, and logical operator manipulations.
- 6) Sequence, selection and looping (decision making, branching and looping).
- 7) Programming procedures including subprograms, functions and modular design.
- 8) Introduction to arrays.
- 9) Introduction to sequential files.
- 10) Introduction to databases.

Assignments:

**Due dates** are posted for each assignment on FerrisConnect.

**Attendance** will be taken at unannounced intervals. THREE percentage points will be deducted from the course grade for each unexcused absence. Excused absence will be permitted only for serious, documented reasons, such as illness, death in the family etc. Requests for excused absence must be made in writing. The lab assignments are done in the lab.

All quizzes and tests must be taken in class in person.

### **Classroom Behavior**

Students are expected to behave in an appropriate manner. Behavior that is inappropriate in a college environment such as repeated conversations with classmates, smoking, cracking gum, using a cell phone in class, drinking, or otherwise disrupting class will result in 10% being deducted from the student's final grade. All software that is needed for this course is installed in the classroom labs. Please do not use other electronic devices in class such as cell phones, laptop computers, or PDA devices.

### **Academic Integrity**

Submitting another person's work as your own is an example of academic dishonesty and will be treated as such. At Ferris the penalty ranges from a minimum of receiving a zero for the assignment to expulsion from the university depending on the severity of the offense.

### **Grading:**

Letter grades will be determined using a standard percentage point evaluation as outlined below.

A = 93%-100%

A- = 90% - 92%

B+ = 87% - 89%

B = 84% - 86%

B- = 80% - 83%

C+ = 77% - 79%

C = 74% -76%

C- = 70% - 73%

D+ = 67% - 69%

D = 63% - 66%

D- = 60% - 62%

F = Below 60%

The final course grade will be computed using the following criteria.

<b>Assignments</b>	<b>60%</b>
<b>Quizzes</b>	<b>20%</b>
<b>Final exam</b>	<b>20%</b>
<b>TOTAL</b>	<b>100%</b>

**Instructor reserves the right to modify the syllabus as necessary. The current syllabus will be posted on Ferris Connect.**

**ISYS-216**  
**Introduction to Java Programming**  
**Fall/2010**

Warner Myntti

Office Hours: 2:00-2:50 and 4:30-5:20 Monday and Wednesday  
Office: Business 336  
Phone: 231-591-2456 (email is better than phone messages) Email:  
FerrisConnect email for the class only (Privacy Laws) Textbook:  
Introduction to JAVA Programming 7<sup>th</sup> edition Comprehensive  
Version by Y. Daniel Liang Required:  
Thumb Drive(USB) Optional: USB  
extender Cable

**Very tentatively, grading will be based on the following:**

Short Assignments (30 or more)	6 Points Each
Exams (3 or more)	30 Points Each
Final	50 Points
Projects (3 or more)	20-30 Points Each
SAI	10 Points
Extra Credit for errors found	10 Points Maximum

I do not know what total points will be.

**I reserve the right to make needed and appropriate adjustments in this syllabus.**

If you can come up with a suggestion that improves learning I will consider making that change.

**Course Expectations:**

I expect you to actively engage in the learning process. Have you ever seen an ad for employees who are good note takers and who do well on multiple choice tests? (Except for certification or screening tests)

**Course Description:**

Introduces the Java platform and the essentials of non-graphical, object-oriented Java programming. Topics include primitive data types and operations, flow control,

language syntax and debugging, packaged classes and methods, custom methods, strings, arrays, custom classes and subclasses, and fundamentals of object-oriented programming. Pre-Requisites: MATH

115 grade C/better or ACT of 24 or SAT 560; & ISYS 110.

### **Course objectives:**

To prepare you for ISYS-316 and the rest of the ISYS classes.

Upon successful completion of this course, you will be able to:

1. Explain and use the fundamental components of the Java platform including the compiler and the Java Virtual Machine.
2. Describe and use Java identifiers, primitive data types, variables, constants, literals, arithmetic operations, conversions, casts, and boolean operations.
3. Apply Java decision handling and looping features including if, if-else, switch, for, while, do-while, break, and continue.
4. Identify and correct errors in the syntax or logic of a Java program.
5. Use methods of the Object, System, Math, String, StringBuffer, and "wrapper" classes, to read from and write to the console, perform calculations, format data, and manipulate strings.
6. Define and use custom class methods including overloaded methods.
7. Use primitive and object arrays including the ability to pass them to and return them from a method.
8. Define and use custom classes that encapsulate hidden data and use overloaded constructors.
9. Define and use subclasses, inner classes, and interfaces that use abstraction and polymorphism.

### **Why do you have to take this course?**

Every ISYS or computer major needs some programming. Most of you will have the opportunity to do very little in your professional life unless you like it. Programming concepts are important in later classes. Your first job or internship may involve it.

### **Short Assignments**

You will complete these; they follow a lecture for each.

## **Exams and Final**

These are open book and notes, but are timed and taken in class.

## **Projects**

These are larger, incorporating more items than the short assignments. Like the short assignments you must do your own. It is Ok to help each other.

## **SAI**

This is where you rate the class.

## **Extra Credit for errors found**

The first person to notify me by email using the FerrisConnect email for any incorrect written instruction or question or systematic error will receive 1 extra point and must be emailed within 1 week of the material being available and before finals.

## **FerrisConnect Calendar:**

You are responsible for checking the FerrisConnect calendar, especially if you miss class. I am converting the class to Ferris Connect.

## **Attendance Policy:**

30 daily Assignments plus projects and tests.

## **Late Penalty:**

Late Projects and Cases will lose a minimum of 20% per day unless for acceptable reasons.

## **Acceptable Reasons:**

You may be required to provide documentation. Acceptable reasons include notes from the health center, military duties, jury duty, FSU authorized trips, funerals, job interviews, in jail (if not convicted), travel arranged before the start of the semester, etc. If you are sick, stay away from class. Send me an email when you get a chance.

## **Notes and PowerPoint Slides:**

The lessons are available via FerrisConnect.

**Humor:**

If you find something offensive, please let me know.

**Other Complaints:**

Arguing with me will not lower your grade. I have turned in an A for students who I found most difficult to deal with. I have also failed students who I liked.

**Grading Scale:**

Grades will be posted in FerrisConnect. If I make a mistake or the software has a problem, I reserve the right to fix any error.

Grade	Percentage	Grade	Percentage
A	93%	C	73%
A-	90%	C-	70%
B+	87%	D+	67%
B	83%	D	63%
B-	80%	D-	60%
C+	77%	F	less than 60%

If I curve it will not be until after the class is over. I will not reveal how much I will curve, but will do so to ensure there is an appropriate number of A's in the class. Maximize your points. I am experimenting this semester and may need to curve. I am assuming you know the difference between may and will. If you have 92.9% do not assume you will get an A. I think it is better for you to make sure you achieve more than is required.

**My Background and Teaching Experience:**

I worked in industry for 12 years for four different organizations in information systems. This is my 27<sup>th</sup> year at Ferris. The reason I came to Ferris was that I did not want to become a supervisor again and wanted to live in a small town. I have taught this class or the one that preceded it more times than I can remember. I have taught over 40 different classes at Ferris including one in statistics. I have two master's degrees, but no doctorate so I am not a Dr. I currently assist with two small businesses.

Fall Semester 2010  
Course Syllabus

**Course Title: ISYS 277 Linux Network Administration**

**Prerequisites:** ISYS105

**Instructor:** Amy Buse, Professor  
Computer Information Systems, College of Business  
Computer Information Technology, College of Business

**Contact Information**

Office Hours: Monday and Wednesday 1:00-2:00 p.m. other times by appointment  
Office location: The instructor has two offices, BUS328 and BUS128. Office hours will usually be in BUS328  
Office Phone: 231-591-5435  
E-mail: All communication regarding the course should be done within FerrisConnect.

E-mail address: busea@ferris.edu

Teaching Schedule:	MW	3:00 p.m. – 4:15 p.m.	ISYS277-001 (BUS121)
	MW	4:30 p.m. – 5:45 p.m.	ISYS325-001 (BUS121)
	TR	6:00 p.m. – 9:00 p.m.	CITS 380 (Off-campus)

**Course Description:**

Topics include Linux operating system commands, installation of the Linux operating system, file system structure, file system management and administration, graphical user interfaces, managing processes, managing users, system backup, trouble-shooting, and networking. This course is aligned with CompTIA Linux+ exam.

**Course Objectives:**

Upon successful completion of this course, the student will be able to:

1. Explain and describe the purpose of the open-source community and the role the Linux operating system has within that community including the various versions of Linux available.
2. Install, manage, maintain, and document services provided by the Linux operating system.
3. Use the various utilities and interfaces, both command line and GUI, offered by Linux.
4. Customize the shell environment.
5. Demonstrate the role of a system administrator, including how to think like a system administrator, and know what certifications are available for Linux.
6. Create user accounts, manage the file system, and modify processes.
7. Prepare for hardware failure, protect data, and check system integrity, including security measures.
8. Demonstrate proper documentation of software installation and server maintenance.
9. Learn how to read networking materials, what print materials are available and how to conduct research in order to identify and evaluate future trends of networking.
10. Learn how to work in a team environment, document project planning, and evaluate team members and project success.
11. Practice/improve soft skills such as verbal and written communication, team skills, public speaking and presentation skills, critical thinking, and inter-personal skills.



## Required Materials:

- Textbook1: Getting Started with Linux: Novell's Guide to CompTIA's Linux+  
Author: Novell & Jason Eckert  
Publisher: Course Technology ISBN: 1-4188-3730-X
- Textbook2: SUSE Linux 10 Bible ()  
Author: Justin Davies, Roger Whittaker, and William von Hagen  
ISBN: 0-471-75488-9

### Software:

#### In Class:

Each team will be creating their own server using the following software: VMware (provided by COB) and SUSE Linux (provided by COB)

#### Out of Class

Students are expected to have access to the following software outside of class: MS-Office Professional 2007, Visio Professional 2007, and the Internet with a browser compatible with and a speed connection sufficient to work in FerrisConnect.

Having access to a computer so you can remote your access your server using utilities like VNC (or others) is necessary and being able to install a virtual server could be beneficial. VMware is available to students. Each student will be entered into the Software License course within FerrisConnect which will give them access to various pieces of software including the MSDN academic license agreement with Microsoft and will be able to have some Microsoft titles to install on their own computer (Microsoft Office is not included). This will be available starting the second week of classes.

### Classroom Performance System (CPS or clickers)

- This course utilizes the CPS system as a way for both students and the instructor to get instantaneous feedback in order to immediately adjust class lectures and discussions to improve student learning. Each student is **required** to have their own transmitter and bring it to class every day. The transmitter must be registered by the beginning of the second class period. Instructions on how to register the transmitter can be found on FerrisConnect.

Any points lost due to a forgotten or non-working transmitter (including dead batteries) cannot be made up.

### FerrisConnect

- This course will **heavily** utilize FerrisConnect. Each student needs to make sure they can login, find necessary information, and correctly use the tools. FerrisConnect will be used as a source for quizzes, assignments, grades, course content, articles, discussions, chats, PowerPoint presentations, etc.
- FerrisConnect is how the instructor and students will electronically communicate regarding this class. Remember, FerrisConnect email is a closed system which means that you cannot email into that system from an external system like Gmail.

When accessing FerrisConnect each student must make sure that the Internet browser being used is compatible with FerrisConnect. The browser must be set to allow pop-ups from FerrisConnect and the computer must have java installed. On the FerrisConnect homepage there is a "Check Browser" link and it is **highly recommended** that all students check the browser.

## Philosophy

In this course, students will be treated much like employees, where the instructor is the supervisor. The instructor expects behaviors and quality of work that are consistent with the workplace. The choices made when designing the course were made to ensure that the workplace, our classroom, flows as smoothly as possible, and that all employees, the students, have the opportunity to succeed at their job, learning.

## Course Mechanics:

**Learner Centered:** The course is taught from a philosophy of learner centered. This is explained within FerrisConnect.

**Teams:** The entire course is done with students in 2-3 person teams with each team assigned to a single computer. Each team will install their computer from scratch. A student's grade will be based on both individual and team assignments. The teams will remain the same for the entire semester.

**Assignments:** To help students keep track of assignments, every assignment will have an electronic assignment created within FerrisConnect. The electronic assignment will contain the assignment requirements, how to submit the assignment, and the due date.

**Assessments:** Besides homework assignments, student assessment will consist of electronic quizzes within FerrisConnect, written quizzes in class, electronic quizzes in class using the CPS (clickers) system, and written tests in class. These are explained later in the syllabus.

**Computers:** Several of the projects will involve working with the equipment in the classroom, and will require each team to be prepared for class. If a team cannot finish a class project they will have to schedule time outside of class to complete the project. When it comes to the equipment students will use in the class, students are responsible for the configuration of the software that runs on that equipment, but not for a hardware failure.

**Class Atmosphere** The learning environment is just as important as any other aspect of the course. To that end, a few simple guidelines will ensure a positive environment.

1. Only sealable beverages are allowed in BUS121.
2. All cell phones, pagers, etc. must be either turned off or in vibrate mode. It is not appropriate to answer a call or text during class unless there is an emergency – please warn the instructor at the beginning of class that you may have to leave to answer the phone.
3. Treat everyone in the classroom with respect.
4. Ask questions when confused, lost, etc., the instructor does not have a crystal ball to know what material needs further explanation.

## Responsibilities to Learning

In order to achieve the goals of the course, both the student and the instructor must fulfill their expected roles and responsibilities. There is a direct relationship between effort and learning. Learning is active, not passive. The work begins long before the first day of class when the instructor develops the course, and then continues with both the instructor and student actively engaging in the course. Each must do their part in order for learning to occur. The following list is not meant to be exhaustive, but to remind us that learning does not just happen, the person that does the work, does the learning.

## Student Responsibilities

1. Take responsibility for learning
  - A student should engage the course material in a given semester at least 180 hours: 45 hours of class time and 135 hours outside of class (2-3 hours outside of class for every hour in class). Of the class time about 5 hours will be used for assessment, leaving 39 hours for class activities to facilitate learning. Therefore, students need to recognize that around 75% of the learning takes place outside of class and the student is responsible for the activities that will lead to successful learning.
2. Be an active learner
  1. attend class both mentally and physically ready to engage in class activities
  2. ask questions when the material is confusing or making connections to a student's prior knowledge is difficult
  3. assist others with their learning
  4. help create a community of scholars
  5. engage in all discussions, both in class and in FerrisConnect, in a manner that adds to the learning process for all
  6. check FerrisConnect at least once per day
  7. respond to fellow students or the instructor within 36 hours
  8. attend class every
  9. be on time
  10. read all course materials including assignment directions
  11. use instructor feedback to improve
  12. discuss course topics with others to help practice using the vocabulary and articulating the concepts
3. Be prepared
  - Consistently engage the material. To be successful a student needs to engage the material before coming to class, while in class, and after class. The best way to learn the material is to engage the material **every day**. See the Reading and Studying Tools learning module within FerrisConnect for further ideas on how to successfully engage the material.
4. Be a positive asset to the team and the class
  - Our learning community will only be as good as its members - YOU. Students should treat the learning community as if the current project is that every employee/student learn the course objectives at a mastery level. This will require each employee/student to not only worry about themselves, but also their team and the entire class. If every person follows the guidelines above, the success rate will dramatically increase. The best way to see if something is truly learned is to teach it to someone else.

## Instructor Responsibilities

1. Utilize class time efficiently
  - As class time is very precious, (roughly 39 hours) choosing meaningful class activities that will help students achieve the course objectives is important. The instructor must be able to adjust class activities based on the student's needs. Assessment, including the CPS system is used to make the necessary adjustments, often during class.
2. Effectively communicate with students
  - It is the instructors responsibility to effectively communicate with students regarding course expectations including due dates for assignments and assignment requirements. This will be done in class verbally, with handouts, and using the FerrisConnect email system, calendar, and announcements.
  - Respond to students within 36 hours
3. Assess student learning

- Give students adequate feedback to help the student improve.
  - Assess a student’s learning of the course objectives to ultimately assign a grade. Demonstrating learning can happen in a variety of ways, not just quizzes and tests. It is the goal of the instructor that all assessment used to calculate the students’ grade is done to motivate and guide the student's learning.
4. Facilitate a learning community
    - The instructor must make sure that the class atmosphere is conducive to learning and that all students have the same opportunity to achieve their fullest potential.
  5. Know subject matter
    - The instructor should be interested in the subject matter and should be well versed in the material that is being presented.

## Attendance/Late Policy

Due to the high correlation between attending class and succeeding in the class and on the job, attendance is part of the final grade, and includes not only coming to class, but being on time and participating while in class.

**Attendance** is worth 5% of the final grade. An absence is defined as not being in class, falling asleep, coming to class more than 15 minutes late, or leaving class early. The following table shows how the grade for attendance is calculated:

Number of absences	Grade
0 absences	+2% added to grade
1 absence	0% added to grade
2 absences	-2% of the grade
3 absences	-3% of the grade
4 absences	-4% of the grade
>4 absences	Fail the course

Attendance is recorded by each student signing the attendance sheet every class period. Not signing the attendance sheet is recorded as an absence. Students may only sign the attendance sheet for themselves. Signing for another student is not permitted.

**Late:** When students are late, the process of entering, taking off your coat, opening a book bag, and getting ready to participate, is very disruptive to everyone, including the instructor. Therefore, when class is scheduled to begin the door will close. Coming to class 1-15 minutes late will be considered late (not an absence), after 15 minutes it is considered an absence. Any time missed for quiz or test taking, will not be made up.

Being late to class has a negative influence on the overall learning environment and therefore is part of a student’s grade. Each time a student is late, it is a 0.5% reduction to a students’ overall grade.

Example: A student who is absent twice, and late 4 times would have an attendance grade of 5 (starting) - 2 (absence deduction) - 2 (.5 per tardy) = 1

## Exceptions to the Attendance Policy

Absences for the following reasons will be viewed as beyond the control of the individual and will not cause a person’s grade to be lowered, or cause them to fail the class unless the absences become too numerous as to make meeting the objectives of the course impossible:

- a. University sponsored events. A paper copy, for the instructor, of the university form with the proper signatures is required prior to the absence.
- b. All other absences are at the discretion of the instructor. Examples of situations that may be considered include: death of a family member/or other significant person in a students’

life; extended hospitalization or major illness; jury duty/being subpoenaed for court testimony, military responsibilities, etc.

**Just as employees would talk with their employer prior to missing work, exceptions must be discussed with the instructor prior to the absence in order to be considered, and proper documentation must be given. Students are always responsible for any work/content that was covered during their absence regardless of the reason for the absence.**

## **Class and Team Participation**

Living up to the student responsibilities is very important and is therefore part of a student's grade. Students will be assessed on a regular basis as to how well they have lived up to their responsibilities. Participation assessment will take many forms including self evaluation, instructor evaluation, and peer review.

When all participants are actively involved in the course it makes the class more interesting and greatly enhances everyone's learning. It is the responsibility of everyone to come to class prepared to participate in the day's activities.


Class participation includes using the Classroom Performance System (CPS or the clickers). Students must have their CPS transmitter each class period.


Class participation also includes a student's ability to be an effective member of their team. A good team member exhibits the following behaviors:


- knows the name(s) and contact information of their teammate(s)

- discusses class material outside of class with their teammate(s)

- is aware of assignments and able to plan their schedule to accommodate the needs of the team

-  is able to plan team projects, carry out their responsibilities to the project, and properly communicate needs and expectations to their team

-  can communicate effectively with team members to ensure everyone understands the expectations from the instructor and from the team

-  makes sure that all team members have every opportunity to learn all material

Because all of these skills are critical to student success in the class and after graduation, 5% of the grade is based on these skills.

## **Assignments: Due Dates/Assignment Quality**

In order to make sure everyone knows what assignments are due, all assignments will have an associated electronic assignment created within FerrisConnect. Make sure to read the directions carefully as most assignments will be turned in electronically, but some will be turned-in in person.

There are two types of assignments: 1) practice and 2) mastery assignment.

Practice assignments are assignments that let student's do just that, practice working with the material. They serve two purposes 1) allow the student to get feedback from the instructor with a low impact to their grade; and 2) allow the instructor to see how well the students are understanding the material.

A mastery assignment is after the practice assignment is when the student is expected to show they have mastered the concepts. These assignments are graded with the A/B/Not yet grading system described below.

**ALL mastery assignments must be completed or a student will fail the course.**

Each assignment has the following components.

**Due Date:** All assignments will have a clear due date and time. Due dates for assignments turned in electronically in FerrisConnect will often be on non-class days.

**Format:** All assignments must be typed in a word processor, unless otherwise stated, and printed using a legible printer (if a paper copy is required). If the printer being used is streaking, or not printing correctly, please find one that will print the assignment correctly. Assignments printed using a printer that makes the document difficult to read will **not** be accepted. The instructor uses MS-Office 2007 on a PC running Windows 7, and all files need to be compatible with that software.

**Identification:** The instructor has several papers/files to manage; therefore, the students must properly label all assignments. There are two parts to properly identifying an assignment: 1) there must be identifying information inside the file; and 2) the name of the file being submitted must be labeled properly. The proper way to identify an assignment is given below.

***Contents of file***

Student's name

The class information: Class, section number, instructor name

The title of the assignment – enough information to clearly identify the paper

The due date of the assignment

If the assignment is a team project, the team number/name and names of all team members

Microsoft Word 2007 has set the default line spacing at 1.5 with 10 pt spacing after a paragraph marker. Please do not leave that setting for the heading in the file that contains your identifying information. It makes the file too long.

***Name of file***



The file name must start with the last name of the student and then have something about the title of the assignment.



The file name should contain no spaces and use camel case to make it easier to read.

Example: If Mary Smith needs to get the topic of her paper approved.

Good filename:   SmithPaperTopic.docx  
                          SmithMaryPaperTopic.docx

Poor filename:    MarySmith assignment #1.docx  
                          assignmentpaper.docx

**Quality:** As student's ultimate goal is to graduate, and get a job in their chosen career, and the #1 required job skill from employers is verbal and written communication skills, how the assignment is prepared and how well the assignment is able to communicate the student's ideas will be part of the grade. This includes, but is not limited to, spelling, including typographical errors and proofreading oversights, grammar, punctuation, word usage, labeling the assignment correctly, citing work properly, and general formatting. Make sure that you know how to use the formatting tools within the software that you are using. For example, do not hit the spacebar to get

text lined up, use the tab key and know how to set tabs where they are needed (hence the prerequisite of ISYS105).

For presentations to the class, it also includes all the presentations skills that students have learned, such as look at the audience, don't read to the audience, speak loud enough to be heard, know the audience, get the point across, etc.

I believe that Ferris, and in this class that means the instructor, is doing its students a disservice if students are allowed to graduate with poor communication skills. Employers feel these are critical skills and cannot be taught by the employer.

***Going to the writing center for help in preparing assignments is not only allowed, but strongly encouraged!!!!***

**If a student is unclear as to what is expected for any assignment, it is the student's responsibility to ask questions.**






Late Assignments: Late work will not be accepted.





### Technical Issues

Ferris State University has a Technology Assistance Center (TAC) that can be reached at 231-591-4822. If a student is having technical issues with FerrisConnect they need to report these issues to TAC. In order to report that homework cannot be submitted due to technical issues a student must first report their issue to TAC, and receive a work order number, then please report the problem to the instructor also including the work order number.

If the technical issues are related to computers directly associated with the course, (ex. getting to a server within the classroom) the student should contact the instructor first and the instructor will let the student know if they should report the issue to TAC or not.

### **Tests/Quizzes**



-  Tests and quizzes are made up of several types of questions: multiple choice, true/false, short answer, and short essay.
-  There will be frequent quizzes, either in class or in FerrisConnect, which will cover any material assigned up to that point, including any reading that has been assigned whether or not the instructor has lectured on the reading. Quizzes may or may not be announced.
-  Quizzes in FerrisConnect are to help ensure that students are engaging the material outside of class. Therefore, when taking FerrisConnect quizzes students will have three chances to get an 80% or better on the quiz. Once the 80% is achieved, credit is recorded, not the actual score. If 80% is achieved before the third try, the student is welcome to repeat the quiz and even if a lower score is earned, the student will still receive full credit (no penalty for practicing). Plan time wisely as the quizzes have a 1 hour wait time between attempts and must be completed by the due date (which is usually before class begins) and once they close cannot be taken.
-  Tests/quizzes in class, will be given in three ways: 1) individually taken with individual scores; 2) individually taken with everyone in the team receiving the average of the individual team member's scores; and 3) team taken with all team members receiving the same score.
-  There are **no make-up** exams or quizzes except for those situations that are covered in the attendance section of this syllabus.

-  If a student is allowed to make-up a test/quiz, it must be done before the next class period. It is the student's responsibility to contact the instructor, **prior** to the day of the original test/quiz.
-  The best way to learn something is to work with it repeatedly. Therefore, information from each quiz/test is potential material for the next quiz/test, with a **cumulative final exam**.
-  Any topic covered in any assigned reading, by a guest lecturer, on a tour, in FerrisConnect, or in class may be asked on a test/quiz.
-  To ensure the sanctity of the testing environment, all students will **stay for the entire class period on test/exam days**. Students may bring something to read in case they finish the test early.

## Original Work

All work turned-in must be a student's original work. There is a huge difference between collaboratively working with someone, and each turning in their own work, and turning in two papers that are identical, or have parts that are identical or very similar. The latter is considered cheating. Taking others work and calling it your own is considered plagiarism.

In addition to the above, ALL assignments and/or other work submitted to satisfy requirements for this course:

- Must be the original work of the student submitting the work;
- Must be specifically prepared to fulfill the requirements of this course;
- Must be prepared during the semester in which the work is submitted for credit;
- If the assignment is an individual assignment, not a team assignment, it must be the sole work of the student submitting the assignment. Even if the team was allowed to discuss the assignment, but team members are required to turn in their own work, the assignment must be the sole work of the individual turning in the assignment. One can discuss a topic with others and still turn in work that is their own interpretation of the topic.
- Must contain properly cited sources using the APA Fifth (or later) Edition writing styles. If a student does not know how to use this style, there is a link on FerrisConnect to assist. When writing, if the author makes a claim, the source of the information must be properly cited. Example: A student states, "The Novell Network Operating System (NOS) is the number one selling NOS". It is unlikely that the student writing that statement did any original research to be able to make such a claim, so the source of the knowledge must be properly cited.
- Any writing that is part of this course will be submitted to a Safe Assign. This is software that scans the submission to assist the instructor with detecting plagiarism. If a student's writing is plagiarized, the consequences will range from at a:
  -  minimum the student will earn a zero on the assignment and be referred to the Office of Student Conduct;
  -  maximum, the student will fail the course and be referred to the Office of Student Conduct.

## Cheating

If a student is found cheating on any assignment, including tests/quizzes, that student and the person who allowed them to cheat will receive a zero on the assignment. It is at the discretion of the instructor whether the student(s) will be referred to the Office of Student Conduct and/or fails the course.



## Grading System

### A/B/Not Yet Grading System

When mastery assignments (not practice assignments, tests or quizzes) are turned in, the instructor grades the assignment, and if the assignment is not of the quality to earn an A or B, the instructor may return the assignment to the student, and it must be redone. At that point the grade in the grade book will be a .1 showing that the student has turned the assignment in, but it is not an A or B. This re-iterative process will continue until the student performs at such a level to earn an A or B on the assignment. When the assignment is returned a new due date will be assigned.

### Grade Calculation:

Grades will be based on the following:

Attendance/Participation/Engagement	10%
Assignments	45%
Team Projects	
In class team work/team evaluations	

Tests and Quizzes	55%
Total	100%

**Grading Scale:**

93- 100%	A	73-76%	C
90-92%	A-	70-72%	C-
87-89%	B+	67-69%	D+
83-86%	B	63-66%	D
80-82%	B-	60-62%	D-
77-79%	C+	59 and below	F

*NOTE: Should circumstances dictate, the instructor reserves the right to modify, at any time, any aspect of this syllabus.*

**ISYS 288-All  
Web Application Development**

**Fall 2010**

**Instructor Information**

Instructor: Jung Choi

E-mail: [choij2@ferris.edu](mailto:choij2@ferris.edu)

Voicemail: 231-591-3147 (O) and 614-327-3061 (Cell)

Course Homepage: [myfsu.ferris.edu](http://myfsu.ferris.edu) (FerrisConnect)

Office: IRC 224






Office hours: MW 2-3 p.m.; TR 9-9:30 a.m., 10:45-11:15 am.; R 1-1:30 p.m. and other times by appointment

**Course Description**

This course is designed to provide the student with the necessary skills to effectively develop Web applications. Mainly, the course will explore the Web application development techniques using PHP and MySQL. Topics include characteristics of Web and application servers; Web engineering principles and application architectures; Web page construction; client and server-side scripting; database interaction; Web application deployment and management; security and performance issues.

**Course Objectives**

The goal of this course is to introduce the student to key Web technologies used to build Web applications. Specifically, PHP and MySQL technologies will be explored to develop a Web application. The course concentrates on the Web application development processes including analyzing, designing functional specifications.

-  to foster knowledge and in-depth understanding of the capabilities of modern Web software development methods and tools;
-  to develop competence in the analysis and specification of the information storage and processing needs of industrial and commercial applications;
-  to produce practitioners who can match and integrate appropriate software technologies, and thus implement effective solutions to the requirements posed by a system specification;
-  to develop the skills to plan and monitor the conduct of the development process with a view to ensuring delivery of a quality- assured product;
-  to efficiently continue to expand student's Web development knowledge on their own with the solid foundation gained in the course.

## Course Topics

1. Web engineering principles and application architecture
2. Survey of Web technologies (Web 2.0)
3. HTML and CSS
4. PHP configuration settings and PHP syntax
5. Web application database interfaces.
6. Session management and quality features.
7. Web Application Development in Open Source environment
  - a. PHP, MySQL, and Apache server
  - b. Client and Server-side scripts

## Learning Outcomes

Specific learning outcomes are listed below

1. Ability to describe the essential concepts associated with Web application architecture that enables Web applications.
2. Ability to describe the basic components of Web browsers and servers.
3. Ability to construct and validate Web pages using HTML and CSS.
4. Ability to understand the important PHP configuration settings and PHP syntax.
5. Ability to utilize an integrated development environment (IDE) to construct and deploy a Web application.
6. Ability to develop a secure, dynamic, database driven Web application using PHP and MySQL.

## Textbook and Software

### Required:

Textbook: Sams Teach Yourself - PHP, MySQL and Apache All in One (4th Edition), Julie C. Meloni, SAMS, 4e, ISBN-13: 978-0-672-32976-0 & ISBN-10: 0-672-32976-x

Software: PHP, MySQL, and Apache server; other Web tools

**Prerequisite:** ISYS 200

### Assignments:

**Assignment schedule:** Programming projects are assigned on the attached course schedule. Any changes to the schedule and programming assignments will be given in class and/or Ferris Connect. If you must miss class for any reason, it is your responsibility to get the notes and find out what you missed.

**Assignment Submission:** Code required to complete programming assignments will be independently tested by the instructor. These must be submitted electronically via Ferris Connect. Be certain to check that any code you submit is virus-free. Code containing viruses will be assigned a grade of 0. Hard-copy of materials associated with non-programming assignments must be handed in at the beginning of class.

## Exams:

Materials included in the exams will be taken from the text, article reviews, Web links and class lecture/discussions. Exams will be administered on the dates scheduled. Please note these dates on the class schedule sheet. Students are not permitted to retain these exams. The tests will be True or False/multiple choice and coding exercises.

## Exam and Grading Policy

The format of each exam will be discussed in the class. Achievement of the course objectives by participants will be assessed using the following instruments: 1 midterm exam, programming projects, participation, and performance on the final exam.

Below is a breakdown of individual assignments and their corresponding contributions to the final letter grade in this course. To keep it simple we use a 100 point scale for the course, with a percentage contributed by each type of assignment.

Except for minor adjustments based upon the final distribution of scores, this course will not be graded on a curve. However, in this course you can earn *bonus points* on the final exam based upon the level of performance improvement and the level of attendance and participation. As a note, you will not be eligible to earn bonus points if you miss the class more than 9 hours during the course. Bonus points will substitute for the usual curve, thus the grades are "curved on merit."

Grading will be on a "straight scale." The scale is the standard 90, 80, 70, 60 scales, etc. Each component of the course grade will be weighted according to the following table:

Type	Note	Distribution
<b>Project and Lecture</b>		<b>90%</b>
Homework (3)	HTML and others	20%
Projects (3)	PHP and MySQL Programming	30%
Midterm Exam (1)	T/F, MC, and exercises	20%
Final Exam	Partially Comprehensive TF, MC, and exercises	20%
<b>Attendance &amp; Participation</b>		<b>10%</b>
<b>Total</b>		<b>100%</b>

## Grading Scale

92.5 <= A <=100	87.5 <= B+ < 90	77.5 <= C+ < 80	67.5 <= D+ < 70	0 <= F < 60
90 <= A- < 92.5	82.5 <= B < 87.5	72.5 <= C < 77.5	62.5 <= D < 67.5	
	80 <= B- < 82.5	70 <= C- < 72.5	60 <= D- < 62.5	

## Email Correspondence

The email title must begin with ISYS288 and short title (e.g., isys288\_*title*). All homework and case deliverables (either e-copy or hard copy) should have a title information on the upper and right hand corner of the first page. Example: isys288\_HW 1, John Doe.

The attached e-file name should begin with isys288\_type of assignment\_the initial of your first name and last name. Example: isys288\_hw1\_jdoe. No cover page is required, please!

## Academic Dishonesty

1. Plagiarism and cheating are serious offenses and may be punished by failure on an exam or assignment, failure in the course. It is the policy of this instructor to pursue the most severe penalties available in cases of academic dishonesty.
2. Due to the current advanced technology trend such as wireless campus network, laptop will be allowed to enhance your learning experience in the class. But use it for just note taking, especially for class purposes. The laptop should not be used for reading newspapers, playing games or some other entertainment during the class. If instructor is noticed for such uses other than the class purpose, then your grade will be impacted negatively. Tolerance level is ZERO!

## Policies

**Testing:** Examinations are expected to be taken at the times scheduled, and make-up work will be permitted only for the following reasons.


















1. Death of an immediate family member.
2. Personal illness requiring attention by physician.
3. Illness of an immediate family requiring your personal attention.
4. Travel out-of-town required by your employer.
5. An emergency and/or situation at the discretion of the instructor.

**Attendance:** Regular class attendance is expected. If a student misses class, the student is responsible for obtaining class notes from another student.

**Policy Revision:** I will reserve the right to make changes to the syllabus or to the above stated procedures if deemed appropriate. **If changes are made, the student will be advised as part of the in-class lecture.**

*Prepared by JYC 9/27/10*

**ISYS 288\_01&02 Course Schedule (subject to change)**

<b>Week/Date</b>	<b>Topic</b>	<b>Chapter</b>	<b>Assignment</b>
<b>Week 1</b> (Aug. 31, Sept. 2)	Course introduction Web engineering principles and application architecture		
<b>Week 2</b> (Sept. 7 & 9)	 Survey of Web Technologies (Web 2.0)		
<b>Week 3</b> (Sept. 14 & 16)	 HTML Overview <ul style="list-style-type: none"> <li>○ Hyper link and Table tag</li> <li>○ CSS</li> </ul>		
<b>Week 4</b> (Sept. 21 & 23)	Introducing Web Application Development Platform  Project discussion		
<b>Week 5</b> (Sept. 28 & 30)	 Conceptual Database Design (ERD)	<b>Ch. 15</b>	
<b>Week 6</b> (Oct. 5 & 7)	 Conceptual Database Design (ERD) (Cont.)		
<b>Week 7</b> (Oct. 12 & 14)	 MySQL (1)	<b>Chs. 16 &amp; 17</b>	
<b>Week 8</b> (Oct. 19 & 21)	 MySQL (2)	<b>Ch. 18</b>	
<b>Week 9</b> <b>(Oct. 26)</b>	 <b>Midterm Exam</b>		
<b>Week 9</b> (Oct. 28)	 PHP (1) <ul style="list-style-type: none"> <li>○ Basic PHP Syntax</li> <li>○ Common PHP Script Elements</li> <li>○ Working with Forms</li> </ul>		
<b>Week 10</b> (Nov. 2 & 4)	 PHP (1) (Cont.)	<b>Chs. 10, 11</b>	
<b>Nov. 3</b>	 Last day for "W" grades		
<b>Week 11</b> (Nov. 9 & 11)	 PHP (2) <ul style="list-style-type: none"> <li>○ Working with Cookies and User Sessions</li> <li>○ Working with Files and Directory</li> </ul>  Creating an Online Address Book	<b>Chs. 12, 13, 20</b>	
<b>Week 12</b> (Nov. 16 & 18)	 <b>Project Workshop 1</b>		
<b>Week 13</b> (Nov. 23 )	<b>Project Workshop 2</b>		
<b>Nov. 25</b>	 <b>Thanksgiving Recess (No Class!)</b>		
<b>Week 14</b> (Nov. 30 & Dec. 2)	 <b>Project Presentation 1</b>		
<b>Week 15</b> (Dec. 7)	 <b>Project Presentation 2</b>		
<b>Final Exam</b> <b>(Dec. 9, Thursday)</b>	<b>Final Exam on the Last Day of Class</b> <b>Good luck!</b>		

ISYS 305

Software Systems  
Spring Semester 2011

3 Credits

Prerequisite: ISYS105 or consent of instructor  
Instructor: Clyde Hardman  
Office: Business 318  
Phone: 591-2822  
E-mail: hardmanc@ferris.edu  
Office Hours: Tues & Thurs 8:30am-9:30am & 2:00pm-3:00pm or by appointment

**Course Objectives:** This course examines the use of commercial software products to meet an organization's information systems needs. The course presents a methodology for analyzing information, system requirements, evaluating competing software products, selecting and installing products, training users, and supporting the products.

**Objectives/Outcomes for the course:** Upon successful completion of this course, the student will:

- 1) Define the process of evaluation of business software.
- 2) Evaluate application needs for various businesses. a.  
Initialization Letter  
b. Feasible Study
- 3) Evaluate various vendor products.  
a. Develop Software Data worksheets  
b. Develop Software Evaluation worksheets
- 4) Evaluate documentation and training for various software products. a.  
Develop Implementation plan  
b. Develop Training program
- 5) Develop System Manual for business needs.  
a. Identify applications support requirements.  
b. Organize the management of computer directories & files. c.  
Identify Backup & Recovery policies & procedures.
- 6) Describe the process of installing and configuring software products.
- 7) Evaluate various versions of Operating systems and identifying various advantages and disadvantage of each.
- 8) Evaluate various popular utility software products for the maintenance of a microcomputer system.

**Course Mechanics:**

The class meets weekly for lecture, discussion, and demonstrations. Each student is responsible for completing a research project on various software products, and a term project designed to simulate selecting software for a company. **All assignments must be completed to receive any credit for the course.**



Required Materials:

- 1) Recommend your purchase a 3 ring binder to keep track of all handouts, class notes, and assignments.
- 2) No Text Book Required

Grades will be based on the following:

	Points	
1) Operating System /Software Utilities Research project	200	
2) Software Articles Reviews	100	
3) Term Project-		
Initiation Letter	25	
Feasible Study	150	
Software & vendors evaluation	200	
Presentation of Software Evaluation	100	
Implementation Plan	75	
Training Program	75	
System User Manual	75	
 Total Term Project Points		<u>700</u>
 TOTAL POINTS		<u>1000</u>

Summary of course work:

1. Operating System /Software Utilities Research project - (20% of final grade)  
The first research projects will require each student to research various operating systems or software utility products. You are required to put together a written report w/bib of 4 to 5 pages (please use 1.5 spacing) and a 1-page summary that needs to be copied and used as a hand out to the class. A hard copy and an electronic copy of the report must be turn-in to the instructor as a single Microsoft Word document. You will present your finding and lead discussion on various schedule days. The report will count as 100 points of the research project and 100 points for your presentation.
2. Software Articles Reviews – (10% of final grade)  
Review 7 articles on software products that can be used in your choice of career. Submit a full page summary page for each article review.
3. Term Project – ( 70% of final grade)  
The term project will require each student to complete a report the will simulate the complete process of selecting software for a business from the analysis of need to implementation and defining backup and recovery policies for the company's system. A complete outline for the project will be given.

4. Instructor's policies:

- 1) Attendance will be taken daily. Unexcused absence cost you **33 points** off your total accumulated points. **An excused absence will only be granted if I have been notified IN ADVANCE via e-mail or voice mail and verification can be supplied.** The maximum number of excused absences is **two**. Any student that has at least a 60% grade with perfect attendances will be rewarded with an automatic 33 point bonus to raise your final grade one level. Perfect attendance is no absence excused or unexcused, but I will allow one absence for an approved school sponsored event.
- 2) All assignments are due by midnight of the assigned due date. Any late assignments will cost 50% of your grade. All written assignments will be turn-in via Ferris Connect.
- 3) If you are required to redo an assignment it will cost you 10% of your grade for that assignment and an possible additional 5% for each additional redo. Any redo assignments not completed within a week will receive a maximum of 50% credit.
- 4) **All assignments must be completed to receive any credit of the course.**

Grading Scale:

93-100%	A	73-76%	C
90-92%	A-	70-72%	C-
87-89%	B+	67-69%	D+
83-86%	B	63-66%	D
80-82%	B-	60-62%	D-
77-79%	C+	59-below	E

If you have health or physical problem (such as epilepsy, hearing, vision, etc.) that I should know about, please let me know privately what to expect.

**ASSIGNMENT DUE DATES:**

**Operating and Utilities Software Research projects: Will begin on Thursday  
January 27th, 2011**

**Term Project-**

<b>Initiation Letter</b>	<b>Tuesday January 25<sup>th</sup>, 2011</b>
<b>Feasible Study</b>	<b>Tuesday February 8th, 2011</b>
<b>Software &amp; vendors evaluation</b>	<b>Tuesday March 15th, 2011</b>
<b>Presentations of Software Evaluation</b>	<b>Thursday March 17th, 2011</b>
<b>Implementation Plan</b>	<b>Tuesday March 29th, 2011</b>
<b>Training Program</b>	<b>Tuesday April 12<sup>th</sup>, 2011</b>
<b>System User Manual</b>	<b>Tuesday April 26<sup>th</sup>, 2011</b>

**ISYS 307**

**Microsoft's Networking Administration  
SPRING SEMESTER 2011**

**3 Credits**

**Prerequisite:** ISYS 105 or equivalent

**Instructor:** Clyde Hardman

**Office:** College of Business 318

**Phone:** (231)591-2822

**E-Mail:** [hardmanc@ferris.edu](mailto:hardmanc@ferris.edu)

**Office Hours:** Tues & Thurs 8:30am-9:30am & 2:00pm-3:00pm  
or by appointment

**Course Description –**

This course will introduce the administration of Microsoft's Server Networking operating system. This course leads to knowledge you need as preparation for certification Installing, Configuring, and Administering Microsoft Windows Server. It includes the knowledge, skills, and hands-on experience required to implement Microsoft's Server operating system. The student will have a working knowledge of Active Directory and Security including: installing server software; configuration of server software & storage; managing accounts & clients; managing groups, folders, files, and object security; managing Dfs, disk Quotas, and Software Installation; installing and managing printers; remote Access & Virtual Private Networks; and managing the Internet.

**COURSE OBJECTIVES/OUTCOMES - upon successful completion of this course, the student will:**

1. Define the Microsoft Networking Model and Server Capabilities
2. Differentiate network protocols and compatibilities.
3. Design, implement and secure Microsoft's Active Directory.
4. Initiate an installation of Microsoft's Server operating system.
5. Configure server, server storage, backup, and performance options
6. Manage accounts and client connectivity.
7. Manage groups, folders, files, and object security.
8. Manage Dfs, disk quotas, and software installation.
9. Construct and implement Microsoft's printing.
10. Manage Microsoft's Internet information services.
11. Evaluate server optimization

**Course Mechanics:**

The class meets Tuesday & Thursday for lecture, discussion, and demonstrations. Each student is responsible for completing various Lab activities, Cases, Quizzes, and Exams. **All assignments must be completed to receive any credit for the course.** Attendance is very important due to daily class labs assignments.

**Required Materials:**

- 1) Recommend your purchase a 3 ring binder to keep track of all handouts, class notes, and assignments.
- 2) Purchase Textbooks:
  - Hands-On Microsoft
  - Windows Server 2008
  - By Michael Palmer
  - ISBN-13: 978-1-4239-0234-8
  - ISBN-10: 1-4239-0234-3

**Grades will be based on the following:**

- |    |   |     |
|----|---|-----|
| 1) | Lab Activities                            | 10% |
| 2) | Case Projects                             | 10% |
| 2) | Chapter Quizzes                           | 20% |
| 3) | 3 Exams – (20%/each)                      | 60% |
| 4) | Final Exam Optional (Replace lowest Exam) |     |

**Instructor's policies:****STUDENTS WILL BE PUT INTO GROUPS OF TWO FOR ALL CLASS LAB WORK & CASE PROJECTS.**

- 1) Lab Activities-Each group will complete Class Lab Activities for each chapter. Each group will turn-in lab activity notes are required. **All lab activities must be completed to receive any credit of the course.** Points will be deducted for missing lab periods.
- 2) Your lab group must complete the chapter case work at the end of each chapter. Case work must be e-mailed via Ferris Connect to me by midnight of the assigned due date.
- 3) You are required to complete the supplied review questions for each chapter and be prepared to answer them in class. A Quiz will be given for each chapter after a quick review of the questions in class. You are required to have your own hard copy of the review questions for class review, if not you will not be allowed to take the chapter quiz and you will received a zero from such quiz. Your lowest quiz grade will be dropped before your quiz average is calculated. **NO MAKE-UPS are giving for quizzes unless arrangements are made prior to quiz.**
- 4) Three exams will be given during the semester. True/False, Multi-choice, and matching type questions will be given. If you miss an exam due to an unexcused absence, you will be required to take the final exam. **An excused absence for an exam must be approved by me prior to the exam and arrangements to take the exam must be set up prior to exam.**

- 5) Attendance will be taken for each class period. Unexcused absence will cost you 20 points off your total accumulated points and an additional 5 points off your lab grade. **An excused absence will only be granted if I have been notified in advance of the class either by voice mail or e-mail and verification can be supplied.** The maximum number of excused absences is **three**. Perfect attendance will be rewarded with 33 bonus points to raise your final grade one level. Perfect attendance is no absence **excused or unexcused**.

**Grading Scale:**

93-100 %	A	73-76%	C
90-92 %	A-	70-72%	C-
87-89 %	B+	67-69%	D+
83-86 %	B	63-66%	D
80-82 %	B-	60-62%	D-
77-79 %	C+	59-below	E

If you have health or physical problem (such as epilepsy, hearing, vision, etc.) that I should know about, please let me know privately what to expect.

READING, LAB & EXAM SCHEDULE:

WEEK 1 – (1/11 & 1/13)

(Tues) Introduction

(Thur) CHAPTER 1

Review & Lab WEEK 2 – (1/18 & 1/20)

(Tues) Chapter 1 Quiz (

Thur) CHAPTER 2

Review & Lab

Chapter 2 Quiz WEEK 3 – (1/25 & 1/27)

(Tues) Chapter 2 Lab Work

Chapter 1 Cases due

(Thur) CHAPTER 3

Review & Lab

Chapter 3 Quiz Week 4 – (2/1 & 2/3)

(Tues) Chapter 3 Lab

Chapter 2 Cases due

(Thur) CHAPTER 4

Review & Lab

Chapter 4 Quiz WEEK 5 – (2/8 & 2/10)

(Tues) Chapter 4 Lab

Chapter 3 Case due

(Thur) Exam 1 – Chapters 1-4

WEEK 6 – (2/15 & 2/17)

(Tues) CHAPTER 5

Review & Lab

Chapter 5 Quiz

(Thur) Chapter 5 Lab

Chapter 4 cases due

WEEK 7 – (2/22 & 2/24)

(Tues) CHAPTER 6

Review & Lab

Chapter 6 Quiz

(Thur) Chapter 6 Lab

Chapter 5 cases due

WEEK 8 – (3/1 & 3/3)

(Tues) CHAPTER 7

Review & Lab

Chapter 7 Quiz

(Thur) Chapter 7 Lab

Chapter 6 cases due

\*\*SPRING BREAK-(3/7-3/11)\*\*

WEEK 9 – (3/15-3/17)

(Tues) CHAPTER 8

Review & Lab

Chapter 8 Quiz

(Thur) Chapter 8 Lab

Chapter 7 case s due

WEEK 10 – (3/22 & 3/24)

(Tues) Exam 2 – Chapters 5-8

(Thur) NO CLASS – OUT OF TOWN

WEEK 11 – (3/29 & 3/31)

(Tue) CHAPTER 9

Review & Lab

Chapter 9 Quiz

Chapter 8 case work Due

(Thur) NO CLASS – EASTER BREAK

WEEK 12 – (4/5 & 4/7)

(Tues) Chapter 9 Lab

(Thur) CHAPTER 10

Review & Lab Chapter 10 Quiz Chapter 9 cases due

WEEK 13 – (4/12 & 4/14)

(Tues) Chapter 10 Lab

(Thur) CHAPTER 11

Review & Lab Chapter 11 Quiz Chapter 10 cases due

WEEK 14- (4/19 & 4/21)

(Tues) Chapter 11 Lab

(Thur) CHAPTER 12

Review & Lab Chapter 12 Quiz Chapter 11 cases due

WEEK 15– (4/26 & 4/28)

(Tues) Chapter 12 Lab

(Thur) EXAM 3 – Chapter 9-12

Chapter 12 cases due

FINALS WEEK – Review Grades OPTIONAL FINAL EXAM Chapters 1-12



# ISYS 316 - Advanced Java Programming

Fall 2010

## Instructor Information

Name: Jim Bandstra  
Office: IRC 212T  
Hours: MWF 2:00-4:00 pm (other hours by  
appointment) Phone: (231) 591-3169 (extension 3169  
on campus) Email: bandstrj@ferris.edu

Outside of class and my office hours, the best way to contact me is via email.

## Course Description

Introduces graphical and advanced Java features to develop event-driven Windows programs and applets. Topics include the Abstract Windows Toolkit, containers and layout managers, components, listeners and event handler, menu bars, exception handling, file and database access, client/server applications, and server-side (Web-based) applications.

## Course Outcomes

Upon successful completion of this course, you will be able to:

1. Describe and employ the classes of Java's Abstract Windows Toolkit in graphical, event-driven Windows programs and applets.
2. Explain and use Java's layout manager classes and container classes to control the appearance of a graphical user interface.
3. Describe and use standard components to facilitate user input and output in a graphical program.
4. Identify and employ standard listeners and their required event handler methods within an event-driven program.
5. Define and apply a menu bar to a Windows program.
6. Identify and use exception handling features in a Java program to both throw and catch exceptions.
7. Describe and use packaged Java classes to write objects to and read objects from a disk file and a Database Management System.
8. Identify and apply Java networking features in a client/server program.
9. Create a Web page with a form.
10. Create a servlet that retrieves and displays information from a Web page
11. Run Web pages and servlets on an application server.

## Prerequisite

ISYS 216 - Introduction to Programming

*or*

ECNS 311 - High Level Programming

## Required Books and Supplies

Introduction to Java Programming, Eighth Edition, by Y. Daniel Liang, ISBN 0-13-213080-7. Supplemental course information is posted at [cobibmi6.ferris.edu](http://cobibmi6.ferris.edu).  
One zip disk or USB flash memory "stick" is needed for program storage and testing.

## Email

Most graded work will be submitted via email. You therefore need an email account that supports attachments and must know how to use it. When sending email, always include "ISYS 316" in the subject line and put your full name in the body of the message.

## Grades

Points will be earned as follows:

Lab exercises (17 @ 3 points each)	51
Small projects (3 @ 30 points each)	90
Major project	40
Exams (3 @ 30 points each)	<u>90</u>
	271

A lab exercise will accompany each lesson. You must submit your answers via email no later than midnight (end of day) of the day of the lesson. The grade for the lab exercise will be determined by spot-checking ONE of its questions chosen at random. You will receive an email answer key with the correct answers prior to the next class session.

Projects will involve program design, coding, and debugging. Your work will be submitted via email. On small projects, 25 points will be based on accuracy and 5 points based on style. The major project will allow you to solve a problem of your choice and will include 10 points for creativity.

Regular exams will consist of several small coding problems. Use of reference materials and computers will be permitted. An OPTIONAL "mock" Java certification exam will be given during exam week. Achieving a score of 60% on this closed-book, multiple-choice exam will result in an "A" for the course.

**LATE WORK:** Late work will NOT be accepted without proof of an illness or emergency that prevented its being submitted on time.

**BONUS POINTS:** You will automatically receive 10 bonus points for completing an on-line Student Assessment of Instruction survey late in the semester. These points can raise your final grade one grade increment. For example, a B would become a B+, a C- would become a C, etc.

Final grades will be based on these cut-off percentages:

93%	A	83%	B	73%	C	63%	D
90%	A-	80%	B-	70%	C-	60%	D-
87%	B+	77%	C+	67%	D+	0%	F

### Classroom Policies

- Attendance is NOT mandatory, but class is an excellent time to complete assigned work and get instructor help. Nearly all graded work can be done during class time.
- For your own safety, please inform me of any serious health problems.
- Treat everyone with dignity and respect. Language, attire, actions, and attitudes that may offend others will NOT be tolerated.
- Do NOT disturb others with pagers, cell phones, CD players, tape players, etc.

ISYS 321 Business Information Systems  
Fall 2010  
Course Syllabus

Instructor: Dr. Hal Palmer  
Office: IRC 212N  
Phone: 591-3165 E-mail: palmerh@ferris.edu  
Office Hours: Th 12-1:30  
T, Th 4:15-5:15

Text: *Information Systems Today: Managing in the Digital World* Valacich and Schneider 4th Edition

Course objectives:

1. To familiarize students with the concept of business information systems organization and function
2. To help students understand the importance of the following business information systems applications
  - A. Engineering and Research including; product/research design and development from inception to plant layout
  - B. Production planning including; engineering, material planning, procurement, supplies, accounts payable
  - C. Plant Operations including; Sales, order entry, receiving, storage, production scheduling, distribution
  - D. Management Operations including; accounts payable, accounts receivable, payroll, cost accounting, inventory cash flow
  - E. Information system organization including; mission, function and hierarchy, user role in information systems function, strategic and management tools such as DSS, expert systems, OLAP, CAD/CAM, EDI, Groupware etc.
  - F. Information systems in retailing/sales including; inventory, procurement, ordering, accounts payable, inventory, financing, sales and accounts receivable, storefront, mail order, E-commerce, shipping and distribution
  - G. Information systems in finance and banking including; process, product and profitability, tradition distribution, cyber institutions and operations

Course description: This course will provide an integrating experience that enables students to demonstrate the capacity to synthesize and apply knowledge from an enterprise perspective. The course introduces students to strategic and operational information systems functions. The course will focus on the interrelationship between information systems within the enterprise.

Tests: There will be four exams and on-line discussions.

Homework: There will be numerous homework assignments during the course of the term.

Class discussion: At the beginning of each class meeting there will be a class discussion on subjects related to business information systems. You will be called on and asked to contribute to the discussion. These talks will be Socratic in nature. That is, there will typically not be right or wrong answers to the question and one answer will lead to more questions. The purpose of the discussion is to start you thinking about the subject matter and should help you understand the information systems material.

Grades: Individual class activities and their respective weight toward the final grade are listed below. Activity

	Weight
Tests	400 pts
In-class discussion	100 pts
On-line	
Discussion	100 pts
Homework	400 pts

Final grades will be assigned as follows

100-90 = A  
89-80 = B  
79-70 = C  
69-60 = D  
59- 00 = F

## **Ferris State University**

**Attendance policy:** Regular class attendance is expected. If you should miss a class meeting, it is your responsibility to obtain information concerning material covered and upcoming assignments. If there is a quiz or other assignment due during that class period, previous arrangements should be made with the instructor on how the work missed will be made up. Work missed due to unexcused absences cannot be made up. Please keep cell phones turned off during class.

**Academic honesty:** Students are expected to do their own work. Cheating on tests, plagiarism on written assignments or any other form of academic dishonesty will result in a zero for the assignment.

**Assignments/test schedules:** Students are expected to hand in all assignments, complete all tasks and complete tests on the day they are due. Late work will receive a 10% grade reduction for each class day they are late. Tests can be made up only if prior arrangements are made with the instructor.

**Class preparation:** Students are expected to come to class prepared. This means they should have read the material assigned for the class session and have prepared any pertinent assignments. Be prepared to discuss the assignments and answer questions pertaining to the class session's subject matter each day. Take notes in class. Much of the material covered in this class will not be found in your text.

**Course Title: ISYS 325 Networking Essentials**

**Instructor:** Dr. Amy Buse, Professor  
Computer Information Systems, College of Business  
Computer Information Technology, College of Business

**Prerequisites:** ISYS105

**Contact Information**

Office Hours: Monday and Wednesday 1:00-2:00 p.m. other times by appointment  
Office location: The instructor has two offices, BUS328 and BUS128. Office hours will usually be in BUS328  
Office Phone: 231-591-5435  
E-mail: All communication regarding the course should be done within FerrisConnect.

E-mail address: busea@ferris.edu

Teaching Schedule:	MW	3:00 p.m. – 4:15 p.m.	ISYS277-001 (BUS121)
	MW	4:30 p.m. – 5:45 p.m.	ISYS325-001 (BUS121)
	TR	6:00 p.m. – 9:00 p.m.	CITS 380 (Off-campus)

**Course Description:**

During this course we will study networking hardware, transmission media, communication protocols, the Open System Interconnection model (OSI), and distributed networking/processing. Appropriate terminology and concepts utilized in networks are introduced, while hands-on experience is centered on designing, planning, installing, and maintaining a local area network (LAN), metropolitan area networks (MANs), and wide area networks (WANs) are discussed. This course does not teach a specific network operating system, the time is spent on the physical network that is utilized to access various services.

**Course Objectives:**

1. Understand the hardware and software associated with networking: cables, NICs, hubs, routers, switches, etc. Be able to know when to use the various types of hardware.
  2. Demonstrate the ability to design, implement, and troubleshoot small peer-to-peer and client/server networks, including installing Windows and any necessary client software.
  3. Demonstrate proper documentation of a network.
  4. Compare and contrast the various network protocols.
  5. Analyze a company's needs/benefits for networking and problems inherent in the non-planned networking environment.
  6. Compare and contrast the characteristics of PANs, LANs, WLANs, MANs, WANs, and VLANs, and identify the hardware and software of each and when each is appropriate.
  7. Understand the various types of wireless communications, the security issues surrounding wireless communications, and when wireless is appropriate.
  8. Learn how to read networking materials, what print materials are available and how to conduct research in order to identify and evaluate future trends of networking.
  9. Improve soft skills such as: verbal and written communication; working in a team environment; document project planning; and evaluate self and team members.
- Accommodate

**Required Materials:**

Textbook: Network+ Guide to Networks Fifth Edition by Tamara Dean  
Publisher: Thomson/ Course Technology

Software:

In Class: Each team will be creating their own workstation using the following software: VMware, Windows 7, anti-virus software, and Visio Professional (all software is provided by the COB)

Out of Class Students are expected to have access to the following software outside of class: MS-Office Professional 2007, Visio Professional 2007, and the Internet with a browser compatible with and a speed connection sufficient to work in FerrisConnect.  
Having access to a computer where the student can change the networking settings would be helpful.  
Each student will be entered into the Software License course within FerrisConnect which will give them access to various pieces of software including the MSDN academic license agreement with Microsoft and will be able to have some Microsoft titles to install on their own computer (Microsoft Office is not included). This will be available starting the second week of classes.

Classroom Performance System (CPS or clickers)

- This course utilizes the CPS system as a way for both students and the instructor to get instantaneous feedback in order to immediately adjust class lectures and discussions to improve student learning. Each student is **required** to have their own transmitter and bring it to class every day. The transmitter must be registered by the beginning of the second class period. Instructions on how to register the transmitter can be found on FerrisConnect.

Any points lost due to a forgotten or non-working transmitter (including dead batteries) cannot be made up.

FerrisConnect

- This course will **heavily** utilize FerrisConnect. Each student needs to make sure they can login, find necessary information, and correctly use the tools. FerrisConnect will be used as a source for quizzes, assignments, grades, course content, articles, discussions, chats, PowerPoint presentations, etc.
- FerrisConnect is how the instructor and students will electronically communicate regarding this class. Remember, FerrisConnect email is a closed system which means that you cannot email into that system from an external system like Gmail.

When accessing FerrisConnect each student must make sure that the Internet browser being used is compatible with FerrisConnect. The browser must be set to allow pop-ups from FerrisConnect and the computer must have java installed. On the FerrisConnect homepage there is a "Check Browser" link and it is **highly recommended** that all students check the browser.

## Philosophy

In this course, students will be treated much like employees, where the instructor is the supervisor. The instructor expects behaviors and quality of work that are consistent with the workplace. The choices made when designing the course were made to ensure that the workplace, our classroom, flows as smoothly as possible, and that all employees, the students, have the opportunity to succeed at their job, learning.

## Course Mechanics:

**Learner Centered:** The course is taught from a philosophy of learner centered. This is explained within FerrisConnect.

**Teams:** The entire course is done with students in 2-3 person teams with each team assigned to a single computer. Each team will install their computer from scratch. A student's grade will be based on both individual and team assignments. The teams will remain the same for the entire semester.

**Assignments:** To help students keep track of assignments, every assignment will have an electronic assignment created within FerrisConnect. The electronic assignment will contain the assignment requirements, how to submit the assignment, and the due date.

**Assessments:** Besides homework assignments, student assessment will consist of electronic quizzes within FerrisConnect, written quizzes in class, electronic quizzes in class using the CPS (clickers) system, and written tests in class. These are explained later in the syllabus.

**Computers:** Several of the projects will involve working with the equipment in the classroom, and will require each team to be prepared for class. If a team cannot finish a class project they will have to schedule time outside of class to complete the project. When it comes to the equipment students will use in the class, students are responsible for the configuration of the software that runs on that equipment, but not for a hardware failure.

**Class Atmosphere** The learning environment is just as important as any other aspect of the course. To that end, a few simple guidelines will ensure a positive environment.

1. Only sealable beverages are allowed in BUS121.
2. All cell phones, pagers, etc. must be either turned off or in vibrate mode. It is not appropriate to answer a call or text during class unless there is an emergency – please warn the instructor at the beginning of class that you may have to leave to answer the phone.
3. Treat everyone in the classroom with respect.
4. Ask questions when confused, lost, etc., the instructor does not have a crystal ball to know what material needs further explanation.

## Responsibilities to Learning

In order to achieve the goals of the course, both the student and the instructor must fulfill their expected roles and responsibilities. There is a direct relationship between effort and learning. Learning is active, not passive. The work begins long before the first day of class when the instructor develops the course, and then continues with both the instructor and student actively engaging in the course. Each must do their part in order for learning to occur. The following list is not meant to be exhaustive, but to remind us that learning does not just happen, the person that does the work, does the learning.



## Student Responsibilities

1. Take responsibility for learning
  - A student should engage the course material in a given semester at least 180 hours: 45 hours of class time and 135 hours outside of class (2-3 hours outside of class for every hour in class). Of the class time about 5 hours will be used for assessment, leaving 39 hours for class activities to facilitate learning. Therefore, students need to recognize that around 75% of the learning takes place outside of class and the student is responsible for the activities that will lead to successful learning.
2. Be an active learner
  1. attend class both mentally and physically ready to engage in class activities
  2. ask questions when the material is confusing or making connections to a student's prior knowledge is difficult
  3. assist others with their learning
  4. help create a community of scholars
  5. engage in all discussions, both in class and in FerrisConnect, in a manner that adds to the learning process for all
  6. check FerrisConnect at least once per day
  7. respond to fellow students or the instructor within 36 hours
  8. attend class every
  9. be on time
  10. read all course materials including assignment directions
  11. use instructor feedback to improve
  12. discuss course topics with others to help practice using the vocabulary and articulating the concepts
3. Be prepared
  - Consistently engage the material. To be successful a student needs to engage the material before coming to class, while in class, and after class. The best way to learn the material is to engage the material **every day**. See the Reading and Studying Tools learning module within FerrisConnect for further ideas on how to successfully engage the material.
4. Be a positive asset to the team and the class
  - Our learning community will only be as good as its members - YOU. Students should treat the learning community as if the current project is that every employee/student learn the course objectives at a mastery level. This will require each employee/student to not only worry about themselves, but also their team and the entire class. If every person follows the guidelines above, the success rate will dramatically increase. The best way to see if something is truly learned is to teach it to someone else.

## Instructor Responsibilities

1. Utilize class time efficiently
  - As class time is very precious, (roughly 39 hours) choosing meaningful class activities that will help students achieve the course objectives is important. The instructor must be able to adjust class activities based on the student's needs. Assessment, including the CPS system is used to make the necessary adjustments, often during class.
2. Effectively communicate with students
  - It is the instructors responsibility to effectively communicate with students regarding course expectations including due dates for assignments and assignment requirements. This will be done in class verbally, with handouts, and using the FerrisConnect email system, calendar, and announcements.
  - Respond to students within 36 hours

3. Assess student learning
  - Give students adequate feedback to help the student improve.
  - Assess a student's learning of the course objectives to ultimately assign a grade. Demonstrating learning can happen in a variety of ways, not just quizzes and tests. It is the goal of the instructor that all assessment used to calculate the students' grade is done to motivate and guide the student's learning.
4. Facilitate a learning community
  - The instructor must make sure that the class atmosphere is conducive to learning and that all students have the same opportunity to achieve their fullest potential.
5. Know subject matter
  - The instructor should be interested in the subject matter and should be well versed in the material that is being presented.

### Attendance/Late Policy

Due to the high correlation between attending class and succeeding in the class and on the job, attendance is part of the final grade, and includes not only coming to class, but being on time and participating while in class.

**Attendance** is worth 5% of the final grade. An absence is defined as not being in class, falling asleep, coming to class more than 15 minutes late, or leaving class early. The following table shows how the grade for attendance is calculated:

Number of absences	Grade
0 absences	+2% added to grade
1 absence	0% added to grade
2 absences	-2% of the grade
3 absences	-3% of the grade
4 absences	-4% of the grade
>4 absences	Fail the course

Attendance is recorded by each student signing the attendance sheet every class period. Not signing the attendance sheet is recorded as an absence. Students may only sign the attendance sheet for themselves. Signing for another student is not permitted.

**Late:** When students are late, the process of entering, taking off your coat, opening a book bag, and getting ready to participate, is very disruptive to everyone, including the instructor. Therefore, when class is scheduled to begin the door will close. Coming to class 1-15 minutes late will be considered late (not an absence), after 15 minutes it is considered an absence. Any time missed for quiz or test taking, will not be made up.

Being late to class has a negative influence on the overall learning environment and therefore is part of a student's grade. Each time a student is late, it is a 0.5% reduction to a students' overall grade.

Example: A student who is absent twice, and late 4 times would have an attendance grade of 5 (starting) - 2 (absence deduction) - 2 (.5 per tardy) = 1

### Exceptions to the Attendance Policy

Absences for the following reasons will be viewed as beyond the control of the individual and will not cause a person's grade to be lowered, or cause them to fail the class unless the absences become too numerous as to make meeting the objectives of the course impossible:

- a. University sponsored events. A paper copy, for the instructor, of the university form with the proper signatures is required prior to the absence.

- b. All other absences are at the discretion of the instructor. Examples of situations that may be considered include: death of a family member/or other significant person in a student's life; extended hospitalization or major illness; jury duty/being subpoenaed for court testimony, military responsibilities, etc.

**Just as employees would talk with their employer prior to missing work, exceptions must be discussed with the instructor prior to the absence in order to be considered, and proper documentation must be given. Students are always responsible for any work/content that was covered during their absence regardless of the reason for the absence.**

### **Class and Team Participation**


Living up to the student responsibilities is very important and is therefore part of a student's grade. Students will be assessed on a regular basis as to how well they have lived up to their responsibilities. Participation assessment will take many forms including self evaluation, instructor evaluation, and peer review.


When all participants are actively involved in the course it makes the class more interesting and greatly enhances everyone's learning. It is the responsibility of everyone to come to class prepared to participate in the day's activities.


Class participation includes using the Classroom Performance System (CPS or the clickers). Students must have their CPS transmitter each class period.

Class participation also includes a student's ability to be an effective member of their team. A good team member exhibits the following behaviors:

- knows the name(s) and contact information of their teammate(s)
- discusses class material outside of class with their teammate(s)
- is aware of assignments and able to plan their schedule to accommodate the needs of the team

-  is able to plan team projects, carry out their responsibilities to the project, and properly communicate needs and expectations to their team

-  can communicate effectively with team members to ensure everyone understands the expectations from the instructor and from the team

-  makes sure that all team members have every opportunity to learn all material

Because all of these skills are critical to student success in the class and after graduation, 5% of the grade is based on these skills.

### **Assignments: Due Dates/Assignment Quality**

In order to make sure everyone knows what assignments are due, all assignments will have an associated electronic assignment created within FerrisConnect. Make sure to read the directions carefully as most assignments will be turned in electronically, but some will be turned-in in person.

There are two types of assignments: 1) practice and 2) mastery assignment.

Practice assignments are assignments that let student's do just that, practice working with the material. They serve two purposes 1) allow the student to get feedback from the instructor with a low impact to their grade; and 2) allow the instructor to see how well the students are understanding the material.

A mastery assignment is after the practice assignment is when the student is expected to show they have mastered the concepts. These assignments are graded with the A/B/Not yet grading system described below.

**ALL mastery assignments must be completed or a student will fail the course.**

Each assignment has the following components.

**Due Date:** All assignments will have a clear due date and time. Due dates for assignments turned in electronically in FerrisConnect will often be on non-class days.

**Format:** All assignments must be typed in a word processor, unless otherwise stated, and printed using a legible printer (if a paper copy is required). If the printer being used is streaking, or not printing correctly, please find one that will print the assignment correctly. Assignments printed using a printer that makes the document difficult to read will **not** be accepted. The instructor uses MS-Office 2007 on a PC running Windows 7, and all files need to be compatible with that software.

**Identification:** The instructor has several papers/files to manage; therefore, the students must properly label all assignments. There are two parts to properly identifying an assignment: 1) there must be identifying information inside the file; and 2) the name of the file being submitted must be labeled properly. The proper way to identify an assignment is given below.

***Contents of file***

Student's name

The class information: Class, section number, instructor name

The title of the assignment – enough information to clearly identify the paper

The due date of the assignment

If the assignment is a team project, the team number/name and names of all team members

Microsoft Word 2007 has set the default line spacing at 1.5 with 10 pt spacing after a paragraph marker. Please do not leave that setting for the heading in the file that contains your identifying information. It makes the file too long.

***Name of file***



The file name must start with the last name of the student and then have something about the title of the assignment.



The file name should contain no spaces and use camel case to make it easier to read.

Example: If Mary Smith needs to get the topic of her paper approved.

Good filename:   SmithPaperTopic.docx  
                          SmithMaryPaperTopic.docx

Poor filename:    MarySmith assignment #1.docx  
                          assignmentpaper.docx

**Quality:** As student's ultimate goal is to graduate, and get a job in their chosen career, and the #1 required job skill from employers is verbal and written communication skills, how the assignment is prepared and how well the assignment is able to communicate the student's ideas will be part of the grade. This includes, but is not limited to, spelling, including typographical errors and proofreading oversights, grammar, punctuation, word usage, labeling the assignment correctly, citing work properly, and general formatting. Make sure that you know how to use the

formatting tools within the software that you are using. For example, do not hit the spacebar to get text lined up, use the tab key and know how to set tabs where they are needed (hence the prerequisite of ISYS105).

For presentations to the class, it also includes all the presentations skills that students have learned, such as look at the audience, don't read to the audience, speak loud enough to be heard, know the audience, get the point across, etc.

I believe that Ferris, and in this class that means the instructor, is doing its students a disservice if students are allowed to graduate with poor communication skills. Employers feel these are critical skills and cannot be taught by the employer.

***Going to the writing center for help in preparing assignments is not only allowed, but strongly encouraged!!!!***

**If a student is unclear as to what is expected for any assignment, it is the student's responsibility to ask questions.**






**Late Assignments:** Late work will not be accepted.





### **Technical Issues**

Ferris State University has a Technology Assistance Center (TAC) that can be reached at 231-591-4822. If a student is having technical issues with FerrisConnect they need to report these issues to TAC. In order to report that homework cannot be submitted due to technical issues a student must first report their issue to TAC, and receive a work order number, then please report the problem to the instructor also including the work order number.

If the technical issues are related to computers directly associated with the course, (ex. getting to a server within the classroom) the student should contact the instructor first and the instructor will let the student know if they should report the issue to TAC or not.

### **Tests/Quizzes**



-  Tests and quizzes are made up of several types of questions: multiple choice, true/false, short answer, and short essay.
-  There will be frequent quizzes, either in class or in FerrisConnect, which will cover any material assigned up to that point, including any reading that has been assigned whether or not the instructor has lectured on the reading. Quizzes may or may not be announced.
-  Quizzes in FerrisConnect are to help ensure that students are engaging the material outside of class. Therefore, when taking FerrisConnect quizzes students will have three chances to get an 80% or better on the quiz. Once the 80% is achieved, credit is recorded, not the actual score. If 80% is achieved before the third try, the student is welcome to repeat the quiz and even if a lower score is earned, the student will still receive full credit (no penalty for practicing). Plan time wisely as the quizzes have a 1 hour wait time between attempts and must be completed by the due date (which is usually before class begins) and once they close cannot be taken.
-  Tests/quizzes in class, will be given in three ways: 1) individually taken with individual scores; 2) individually taken with everyone in the team receiving the average of the individual team member's scores; and 3) team taken with all team members receiving the same score.
-  There are **no make-up** exams or quizzes except for those situations that are covered in the attendance section of this syllabus.

-  If a student is allowed to make-up a test/quiz, it must be done before the next class period. It is the student's responsibility to contact the instructor, **prior** to the day of the original test/quiz.
-  The best way to learn something is to work with it repeatedly. Therefore, information from each quiz/test is potential material for the next quiz/test, with a **cumulative final exam**.
-  Any topic covered in any assigned reading, by a guest lecturer, on a tour, in FerrisConnect, or in class may be asked on a test/quiz.
-  To ensure the sanctity of the testing environment, all students will **stay for the entire class period on test/exam days**. Students may bring something to read in case they finish the test early.

## Original Work

All work turned-in must be a student's original work. There is a huge difference between collaboratively working with someone, and each turning in their own work, and turning in two papers that are identical, or have parts that are identical or very similar. The latter is considered cheating. Taking others work and calling it your own is considered plagiarism.

In addition to the above, ALL assignments and/or other work submitted to satisfy requirements for this course:

- Must be the original work of the student submitting the work;
- Must be specifically prepared to fulfill the requirements of this course;
- Must be prepared during the semester in which the work is submitted for credit;
- If the assignment is an individual assignment, not a team assignment, it must be the sole work of the student submitting the assignment. Even if the team was allowed to discuss the assignment, but team members are required to turn in their own work, the assignment must be the sole work of the individual turning in the assignment. One can discuss a topic with others and still turn in work that is their own interpretation of the topic.
- Must contain properly cited sources using the APA Fifth (or later) Edition writing styles. If a student does not know how to use this style, there is a link on FerrisConnect to assist. When writing, if the author makes a claim, the source of the information must be properly cited. Example: A student states, "The Novell Network Operating System (NOS) is the number one selling NOS". It is unlikely that the student writing that statement did any original research to be able to make such a claim, so the source of the knowledge must be properly cited.
- Any writing that is part of this course will be submitted to a Safe Assign. This is software that scans the submission to assist the instructor with detecting plagiarism. If a student's writing is plagiarized, the consequences will range from at a:
  -  minimum the student will earn a zero on the assignment and be referred to the Office of Student Conduct;
  -  maximum, the student will fail the course and be referred to the Office of Student Conduct.

## Cheating

If a student is found cheating on any assignment, including tests/quizzes, that student and the person who allowed them to cheat will receive a zero on the assignment. It is at the discretion of the instructor whether the student(s) will be referred to the Office of Student Conduct and/or fails the course.

## Grading System

### A/B/Not Yet Grading System

When mastery assignments (not practice assignments, tests or quizzes) are turned in, the instructor grades the assignment, and if the assignment is not of the quality to earn an A or B, the instructor may return the assignment to the student, and it must be redone. At that point the grade in the grade book will be a .1 showing that the student has turned the assignment in, but it is not an A or B. This re-iterative process will continue until the student performs at such a level to earn an A or B on the assignment. When the assignment is returned a new due date will be assigned.

### Grade Calculation:

Grades will be based on the following:

Attendance/Participation/Engagement	10%
Assignments	45%
Team Projects	
In class team work/team evaluations	
Tests and Quizzes	55%
Total	100%

### Grading Scale:

93- 100%	A	73-76%	C
90-92%	A-	70-72%	C-
87-89%	B+	67-69%	D+
83-86%	B	63-66%	D
80-82%	B-	60-62%	D-
77-79%	C+	59 and below	F

NOTE: *Should circumstances dictate, the instructor reserves the right to modify, at any time, any aspect of this syllabus.*

**Course Outline:** The course is divided into three parts.

### **Part 1: Introduction and Hardware**      **Test 1 Date:**

This part of the course is centered on getting to know the hardware and software components of a network. It will cover Chapters 1, 2, and 3 of the text along with many hands-on projects. The major concepts during this phase of the course include:

- Learning how to use FerrisConnect components
- Install Windows and understand what role Windows plays in networking the computer.
- The definitions of LAN, PAN, SAN, NAS, MAN, WAN, and VLAN, but Part 1 of the course will concentrate on LAN

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- What is a local area network? The physical and logical components which includes topology, various cables types, network interface cards (NICs), and connectivity devices
- The difference between a peer-to-peer and client/server network. (hardware and software required to create both types of LANs)
- The differences between a server and a workstation including NOSs and OSs.
- The OSI model

## **Part 2: Logical Components**

### **Test 2 Date:**

This part of the course is concentrating on the software that makes the network function. It will build on the knowledge from Part 1 to learn more details about the hardware and how it integrates with the software. It will cover Chapters 4, 5, 6, and 10. The major concepts for Part 2 include:

- Connectivity devices like, hubs, repeaters, switches, routers, etc.
- Tour the College of Business networking closets and document the design.
- Install Visio and learn how to use it to draw networks
- Office visit to discuss the course and the students progress in the course
- The protocols, Appletalk, IPX/SPX, TCP/IP, NetBeui, NetBIOS
- A team presentation
- Topologies and access methods
- Create a peer-to-peer network and document it properly
- 3-5 page paper on an approved networking topic

## **Part 3: Adv. networks, WAN, MAN**

### **Test3: Exam**

This part of the course tries to put it all together. How have networks to include wireless connectivity and how does the knowledge apply to larger networks such as MANs and WANs. It will include the hardware, software and topology of these networks. This will incorporate Chapters 7 and 8, (If time some combination of chapters 11, 12, 13, 14, and 15) in the text. The major concepts for Part 3 include:

- Create a client/server network and document it properly
- Wireless networks and VOIP
- The hardware and software for a MAN, WAN
- Troubleshooting and maintaining a network
- Network security
- Issues related to maintaining a network
- Final Project



Ferris State University

**ISYS 330 Systems Analysis and Design**  
**Fall 2010**  
**Course Syllabus**

Instructor: Dr. Hal Palmer Office: IRC

212N Phone: 591-3165

E-mail: [palmerh@ferris.edu](mailto:palmerh@ferris.edu) You will get a faster response if you contact me through the Ferris Connect e-mail facility for the class.

Office Hours: 12-1:30 Th  
4:15-5:15 T, Th  
Or ask to see me before or after class

Text: *Systems Analysis and Design* 8<sup>th</sup> edition by Kendall and Kendall  
Prerequisite: ISYS 200, ISYS 316

Course objectives: The overall course objective is to give students the concepts and skills for analyzing and designing information systems requirements. The course will concentrate on the front-end of the systems development processes: gathering and analyzing user and systems requirements, problem analysis, and survey techniques, various requirement specification methods, and designing solution layout using prototyping.

Course Description: This course is designed to provide the student with the necessary skills to effectively analyze the information system requirements for the large and complex business applications and successfully design an information system to meet those requirements. This course will present a contemporary information systems development methodology incorporating suitable analysis and design modeling techniques. The methodologies taught will be both conventional and object-oriented approaches and they are applied in the context of a practical case study making use of a contemporary development environment. This course will fulfill the General Education “writing intensive course” requirements.

Tests: There will be a mid-term and final exam

Homework: Periodic homework will be assigned throughout the term

Class Discussion: At the beginning of each class meeting there will be a class discussion on subjects related to systems analysis and design. You will be called on and asked to contribute to the discussion. These talks will be Socratic in nature. That is, there will typically not be right or wrong answers to the question and one answer will lead to more questions. The purpose of the discussion is to start you thinking about the subject matter and should help you understand the systems analysis and design material.

Grades: Individual class activities and their respective weight toward the final grade are listed below. Activity

	Weight
Tests	200
In-class Discussion	100
On-line Discussion	100
Homework	100
Class Project	500

Final grades will be assigned as follows: A 1,000-900 points  
B 899-800 points

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C 799-700 points

D 699-600 points

F 599- 0 points

**Attendance Policy:** Regular class attendance is expected. If you should miss a class meeting, it is your responsibility to obtain information concerning material covered and upcoming assignments. If there is a quiz or other assignment due during that class period, previous arrangements should be made with the instructor on how the work missed will be made up. Work missed due to unexcused absences cannot be made up. Please keep cell phones turned off during class.

**Academic honesty:** Students are expected to do their own work. Cheating on tests, plagiarism on written assignments or any other form of academic dishonesty will result in a zero for the assignment.

**Assignments/test schedules:** Students are expected to hand in all assignments, complete all tasks and complete tests on the day they are due. Late work will receive a 10% grade reduction for each class day they are late. Tests can be made up only if prior arrangements are made with the instructor.

**Class preparation:** Students are expected to come to class prepared. This means they should have read the material assigned for the class session and have prepared any pertinent assignments. Be prepared to discuss the assignments and answer questions pertaining to the class session's subject matter each day. Take notes in class. Much of the material covered in this class will not be found in your text.

# ISYS 371

## Advanced Data Base Design and Implementation

### Syllabus

**Professor:** Jim Bandstra  
**Work/Phonemail:** (231) 591-3169  
**Home Phone:** (231) 796-2508  
**E-mail:** [bandstrj@ferris.edu](mailto:bandstrj@ferris.edu)  
**Office hours:** MWF 2:00 PM – 4:00 PM

**Prerequisites:** ISYS 200 and ISYS 216  
**Text:** SQL for DB2 by James Cooper & Paul Conte  
29<sup>th</sup> Street Press – ISBN 1583041230

**Web Site:** Course material and the discussion database will on class web site:  
<http://cobibmi6.ferris.edu/banj/iseres.html>

#### Grading

Quizzes – 15% Article Reviews –  
10% Tests (2) – 30% Group Project  
– 20% Individual Project – 25%

#### Tentative Schedule

Class will meet Monday, Wednesday, and Friday from 11:00 until 11:50  
August 30 through December 10, 2010.  
Final examination will be December 16, 2010 at 10:00 – 11:40.

#### Course Format

This class will be discussion and work group based. Students are expected to equally contribute to class discussions, breakout sessions, and the group project. There will be a significant amount of lab time outside class hours.

Students are expected to communicate class issues with each other using the class discussion database. Appropriate topics would include questions about class material and exercises.

#### Assignments

##### Quizzes

There will be 2 to 4 in-class quizzes/assignments

##### Article Reviews

Review five articles related to class topic areas and prepare

1. a brief summary of the major points of each article
2. a critique of each article
3. what you learned from the article.
4. Include a bibliographic citation in APA format to receive full credit. The review will be **only 1 page no title page**. Put your name at the top and submit electronically to me at [bandstrj@ferris.edu](mailto:bandstrj@ferris.edu) with "ISYS371"

article review" in the subject line.

All article reviews must be turned in by **December 6, 2010**.

Be prepared to discuss the article with the class.

Articles should be from technical journals, computer publications, web sites and similar sources, and should deal with topics relevant to the class.

### APA sample

Smith, P.L. & Dillon, C.L. (1999). Comparing Distance Learning and Classroom Learning: Conceptual Considerations. *The American Journal of Distance Education*. 13(2), 6-24.

### Project One

The first project will be due **October 25, 2010**.

The use of appropriate publishing/presentation software to complete both projects

### Project Two

The second project will be due **December 10, 2010**

Selected projects may be presented to the class.

## Tentative Schedule

Week Chapter	Date	Topic	Textbook
1	08/30/10	Orientation/DB History/SQL Server Client/Server & Distributed Processing Database Architecture/ What is SQL Server Project One Orientation	Chapter 1
2	09/06/10	Understanding Database objects Project One Orientation Entity-Relationship Diagrams	Chapter 2, 6
3	09/13/10	<b>Quiz (open notes and book)</b> Normalization	Chapter 7
4	09/20/10	DB Objects Discussion of indexes, keys, rules, constraints	Chapters 6, 9, 11
5	09/27/10	<b>Quiz (open notes and book)</b> More SQL Project One Work and Article Review	Chapter 3, 10
6	10/04/10	More SQL Project One Update	Chapters 11, 12
7	10/11/10	Stored Procedures <b>Quiz (open notes and book)</b> Mid-term Exam Review	Chapter 18
8	10/18/10	Stored Procedures and Triggers <b>Mid-Term Exam</b>	Chapters 17, 18

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9	10/25/10	Project One Presentations (Project Due)
10	11/01/10	Project Two Orientation
11	11/08/10	Project Two Work
12	11/15/10	Project Two Work
13	11/22/10	Project Two Work
14	11/29/10	Project Two Work
15	12/06/10	All Articles Due (email to <a href="mailto:bandstrj@ferris.edu">bandstrj@ferris.edu</a> ) Project Two Due – December 11 Exam Review
16	12/16/10	Final Exam (10:00 – 11:40)

# Ferris State University

## College of Business

### COURSE: ISYS 411 Project Management

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**INSTRUCTOR:** Barbara L Ciaramitaro, PhD,  
PMP, CISSP, CSSLP

**ONLINE INSTRUCTION :** FerrisConnect

**COURSE DATES:** August 30 to December 18,  
2010

**OFFICE HOURS:** 1:00 to 3:00 p.m. Tuesday in  
Big Rapids; Online Office Hours will be held  
weekly; Other times available by appointment.

**Syllabus Changes:** I reserve the right to make  
adjustment in this syllabus whenever I judge that  
the adjusted syllabus will better serve the overall  
learning needs of the class.

**Please note that Ferris Connect Mail will be  
used for all course communications.**

**PHONE (OFFICE):** (231) 591-3199 or (313) 207-  
6127 (preferred)

**EMAIL ADDRESS:** [ciaramb@ferris.edu](mailto:ciaramb@ferris.edu) or  
[Barbara.L.Ciaramitaro@verizon.net](mailto:Barbara.L.Ciaramitaro@verizon.net)

**FACEBOOK:** Barbara L. Ciaramitaro

**TWITTER:** <http://twitter.com/bciaramitaro>

**LINKEDIN:**

<http://www.linkedin.com/in/barbaraciaramitaro>

**BLOGS:** <http://techademia.wordpress.com/> and  
<http://allthingsdigital.wordpress.com>

## COURSE DESCRIPTION:

This course will be conducted in an online environment using Ferris Connect. It will focus on providing you with insights, guidance and best practices on the art and science of project management. We will examine the foundations of project management as defined by experts including Eliyahu Goldratt and the Project Management Institute. We will review the various aspects of the project management lifecycle and knowledge areas and use resources such as the Project Management Body of Knowledge, the course textbooks, and case studies to support our discussions. We will learn to apply some of the project management knowledge and skills through the use of activities and the preparation of project management plans covering various topics. We will also introduce project management career paths and provide a basic introduction to project management software tools.

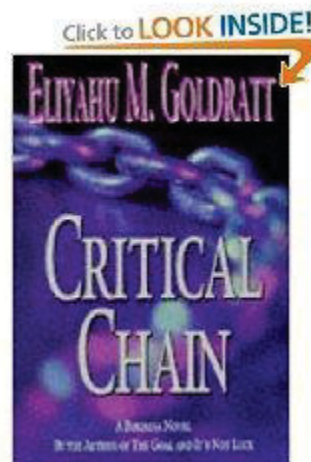
## PREREQUISITES:

 Senior Status

## COURSE MATERIALS:TEXTBOOK(S):

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**Title:** Project Management: Achieving Competitive Advantage  
**Author:** Jeffrey Pinto  
**Publisher:** Prentice Hall  
ISBN  
0136065619



**Title:** Critical Chain  
**Author:** Eliyahu Goldratt  
**Publisher:** Gower Publishing Company  
ISBN:  
0566080389

## ▶OTHER COURSE MATERIALS:






## COURSE METHODS & OBJECTIVES:

### ▶ COURSE METHODS:

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Online Lectures and Presentations  
Discussion Forum  
Individual Assignments  
Group Project Plan  
Midterm and Final Exams

### COURSE OBJECTIVES:

- 
-  The student will examine project management knowledge areas and apply that knowledge in the preparation of project documents, deliverables, and team work.
  -  The student will evaluate project management best practices and assess their effectiveness and value through practice assignments and collaborative discussion.
  -  The student will work within a team to develop a comprehensive project plan focused on managing a successful project throughout its life cycle.
  -  The student will apply the Project Management Institute's Code of Ethics and Professional Responsibility and apply the code to various scenarios common in project management.
  -  The student will evaluate their need to further develop interpersonal skills such as communication, conflict management, leadership and team building through practice scenarios with other students.



## ASSESSMENT GUIDELINES:

### ASSIGNMENTS:

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The purpose of assignments is to reinforce the learning process. **All assignments are due Sunday of each week by 11:59 PM unless otherwise stated.**

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### GROUP PROJECT PLAN ASSIGNMENT:

The deliverables for the Group Project Plan Assignment include the following components. Each of these will be discussed in detail during the lecture and discussion forums and the teams will prepare most of the deliverables through weekly assignments.

- Project Charter
- Project Plan
  - Final Scope and Deliverables
  - Feasibility Study and Identification of Constraints (Cost, Schedule, Legal, Organizational, Other)
  - Risk Assessment
  - Project Organization
    - Identification of Stakeholders
    - Project Team Structure, Roles & Responsibilities (RACI)
    - Issue Escalation Plan
  - Project Schedule
    - Work Breakdown Structure
    - Determination of Critical Path
    - Project Schedule (including milestones and deliverables)
  - Project Budget
  - Quality Management Plan
  - Communication Plan
  - Vendor Management Plan
  - Change management Plan

### ▶ QUIZZES & EXAMS:

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There will be a mid-term and final exam. The exams are cumulative. They are a combination of multiple choice and short essay questions.

For this online class, exams will be open-book and open-notes.

### ▶ DISCUSSIONS:

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Students will be required to participate and interact with one another during the semester on the course discussion boards. Discussion questions will be posted on a weekly basis. You are required to create at least one original reply to the discussion topic and respond to at least two of your classmates for each discussion question posted. Early posting in the Discussion will ensure you receive replies from fellow students. Your weekly discussion posting will be graded using the following grading rubric.

## Discussion Questions Grading Rubric

Points	Description
15 points	Responded to all questions with interaction among other students. Responses began early and were often. Responses were thoughtful and topical. Outside sources, previous knowledge, and real life experience were used in responses. The flow and direction of the discussion was greatly affected by contribution.
10-14 points	Did not respond directly to all questions, and/or did not respond to others with comments or questions and/or all responses are made in one visit to the site. Responses lacked deep analysis or thought..
9 or less points	Minimal participation. Did not respond to all posted questions. All responses are made in one visit to the site. Responses lacked analysis or thoughtfulness (applied text or lecture teaching points or real life examples) and/or was not topical (related to the text and lectures.)
0	No participation. No response

### ►MAKE-UP POLICY:

**There will be no make up quizzes, exams, assignments or discussion question postings.** It may be possible to pre-schedule a quiz or exam but students must contact the instructor directly and this will be determined on an individual basis.

## COURSE POINTS & GRADING SCALE:

### ►COURSE POINTS:

Your performance in this course will be assessed as follows:

Assessment	Points
Mid-Term and Final Exam (100 pts) =	200
Individual Assignments (10 @ 20 pts each)=	200
Group Assignments (9 @ 20 pts each)	180
Individual Assessments (10 @ 10 points each)	100

























### ▣ GRADING SCALE:


























950 and above = A  
 890 - 949 = A-  
 850 - 889 = B+  
 820 - 849 = B  
 780 - 819 = B-  
 750 - 779 = C+  
 700 - 749 = C  
 650 - 699 = C-  
 600 - 649 = D+  
 550 - 599 = D  
 below 550 = F





















Discussion Board (12 @ 15 Points each) =	180
Group Project Plan Paper	140
Total Pointes	1000






















## 11-WEEK ASSIGNMENT SCHEDULE:

























WEEK BEGINS	DUE	THIS WEEK'S TOPICS	ASSIGNED THIS WEEK
<b>1</b> <b>8/30/10</b>		<ul style="list-style-type: none"> <li>Course Introduction to Project Management</li> <li>Introduction to the Project Management Institute and other sources of Project Management Best Practices</li> </ul>	<ul style="list-style-type: none"> <li>Pre-Course Survey</li> <li>Read <u>Critical Chain</u> Chapters 1-2</li> <li>Read <u>Project Management</u> Chapters 1-2</li> <li>Week #1 Discussion Board</li> <li>Individual Assignment 1</li> <li>Form Teams for Group Project and Project Selection</li> </ul>
<b>2</b> <b>9/6/10</b>	<ul style="list-style-type: none"> <li>Pre-Course Survey</li> <li>Week #1 Discussion Board</li> <li>Individual Assignment 1</li> <li>Formation of Teams and Project Selection</li> <li><b>Due no later than 11:59 pm on Sunday, 9/5/10</b></li> </ul>	<ul style="list-style-type: none"> <li>Introduction to the Project Management Lifecycle</li> <li>Introduction to the Project Management Institute Knowledge Areas</li> <li>Introduction to the Project Plan</li> </ul>	<ul style="list-style-type: none"> <li>Read <u>Critical Chain</u> Chapters 3-4</li> <li>Read <u>Project Management</u> Chapter 3</li> <li>Week #2 Discussion Board</li> <li>Individual Assignment 2</li> <li>Individual Assessment 1 – Project Lifecycle and Knowledge Areas</li> </ul>

<p><b>3</b> <b>9/13/10</b></p>	<p> Week #2 Discussion Board</p>	<p> Project Management Knowledge Areas –</p>	<p> Read <u>Critical Chain</u> Chapters 5-6</p>
	<p> Individual Assignment 2</p> <p> Individual Assessment 1 – Project Lifecycle and Knowledge Areas</p> <p> Individual Assignment 2</p> <p> <b>Due no later than 11:59 pm on Sunday, 9/12/10</b></p>	<p>Integration Management</p>	<p> Read <u>Project Management</u> Chapter 4</p> <p> Week #3 Discussion Board</p> <p> Individual Assignment 3</p> <p> Individual Assessment 2 – Integration Management</p> <p> Group Assignment 1 – Determine Project Title and Scope and Develop Project Charter</p>
<p><b>4</b> <b>9/20/10</b></p>	<p> Week #3 Discussion Board</p> <p> Group Assignment 1- Preparing a Project Charter, Change Management Plan and Start the Project Plan</p> <p> Individual Assignment 3</p> <p> Individual Assessment 2</p> <p> <b>Due no later than 11:59 pm on Sunday, 9/16/10</b></p>	<p> Project Management Knowledge Areas – Scope Management</p>	<p> Read <u>Critical Chain</u> Chapters 7-8</p> <p> Read <u>Project Management</u> Chapter 5</p> <p> Week #4 Discussion Board</p> <p> Individual Assignment 4</p> <p> Individual Assessment 3 – Scope Management</p> <p> Group Assignment 2 - Develop Work Breakdown Structure</p>

<p><b>5</b> <b>9/27/10</b></p>	<ul style="list-style-type: none"> <li> Week #4 Discussion Board</li> <li> Individual Assignment 4</li> <li> Individual Assessment 3</li> <li> -</li> </ul>	<ul style="list-style-type: none"> <li> Project Management Knowledge Area – Time Management</li> </ul>	<ul style="list-style-type: none"> <li> Read <u>Critical Chain</u> Chapters 9-10</li> <li> Read <u>Project Management</u> Chapters 9-10</li> <li> Week #5 Discussion</li> </ul>
	<p>Assignment 2 - Develop a Work Breakdown Structure Assignment</p> <p> <b>Due no later than 11:59 pm on Sunday, 9/26/10</b></p>		<ul style="list-style-type: none"> <li> Board</li> <li> Individual Assignment 5</li> <li> Individual Assessment 4 – Time Management</li> <li> Group Assignment 3 – Create a Network Diagram and Determine the Critical Path</li> </ul>
<p><b>6</b> <b>10/4/10</b></p>	<ul style="list-style-type: none"> <li> Week #5 Discussion Board</li> <li> Individual Assignment 5</li> <li> Individual Assessment 4</li> <li> Group Assignment 3 – Prepare a Network Diagram and Determine the Critical Path</li> <li> <b>Due no later than 11:59 pm on Sunday, 10/3/10</b></li> </ul>	<ul style="list-style-type: none"> <li> Project Management Knowledge Areas – Cost Management</li> </ul>	<ul style="list-style-type: none"> <li> Read <u>Critical Chain</u> Chapters 11-12</li> <li> Read <u>Project Management</u> Chapter 8</li> <li> Week #6 Discussion Board</li> <li> Individual Assignment 6</li> <li> Individual Assessment 5 – Cost Management</li> <li> Group Assignment 4 – Prepare a Project Budget</li> </ul>


















<p><b>7</b> <b>10/11/10</b></p>	<ul style="list-style-type: none"> <li> Week #6 Discussion Board</li> <li> Individual Assignment 6</li> <li> Individual Assessment 5</li> <li> Group Assignment 5 – Earned Value Management and Project Budget</li> <li> <b>Due no later than 11:59 pm</b></li> </ul>	<ul style="list-style-type: none"> <li> Project Management Knowledge Areas – Quality Management</li> </ul>	<ul style="list-style-type: none"> <li> Read <u>Critical Chain</u> Chapters 13-14</li> <li> Read <u>Project Management</u> Chapter 13</li> <li> Week #7 Discussion Board</li> <li> Individual Assignment 7</li> <li> Individual Assessment 6 – Quality Management</li> </ul>
	<p><b>on Sunday, 10/10/10</b></p>		<ul style="list-style-type: none"> <li> Group Assignment 5 – Prepare a Quality Plan</li> </ul>
<p><b>8</b> <b>10/18/10</b></p>	<ul style="list-style-type: none"> <li> Week #7 Discussion Board</li> <li> Individual Assignment 7</li> <li> Individual Assessment 6</li> <li> Group Assignment 5– Define Quality Standards</li> <li> <b>Due no later than 11:59 pm on Sunday, 10/17/10</b></li> </ul>	<ul style="list-style-type: none"> <li> Mid-Term Review</li> </ul>	<ul style="list-style-type: none"> <li> Read <u>Critical Chain</u> Chapters 15-16</li> <li> Complete Mid-term Exam – Combination of Multiple Choice and Short Essay</li> </ul>





<p><b>9</b> <b>10/25/10</b></p>	<p>Mid Term Exam <b>Due no later than 11:59 pm on Sunday, 10/24/10</b></p>	<p> Project Management Knowledge Areas – Human Resource Management</p>	<p> Read <u>Critical Chain</u> Chapters 17-18</p> <p> Read <u>Project Management</u> Chapter 12</p> <p> Week #9 Discussion Board</p> <p> Individual Assignment 8</p> <p> Individual Assessment 7 – Human Resource Management</p> <p> Group Assignment 6 – Develop RACI Chart</p>
<p><b>10</b> <b>11/1/10</b></p>	<p> Week #9 Discussion Board</p> <p> Individual Assignment 8</p>	<p> Project Management Knowledge Areas – Communications Management</p>	<p> Read <u>Critical Chain</u> Chapters 19-20</p> <p> Read <u>Project</u></p>
	<p> Individual Assessment 7</p> <p> Group Assignment 6 – Develop a RACI Chart</p> <p> <b>Due no later than 11:59 pm on Sunday, 10/31/10</b></p>		<p> <u>Management</u> Chapter 6</p> <p> Discussion Board</p> <p> Week #10 Discussion Board</p> <p> Individual Assignment 8</p> <p> Individual Assessment 7 – Communications Management</p> <p> Group Assignment 7– Develop a Communications Plan</p>

<p><b>11</b> <b>11/8/10</b></p>	<ul style="list-style-type: none"> <li> Week #10 Discussion Board</li> <li> Individual Assignment 8</li> <li> Individual Assessment 7</li> <li> Group Assignment 7– Conflict Resolution Techniques and Prepare a Communication Plan</li> <li> <b>Due no later than 11:59 pm on Sunday, 11/7/10</b></li> </ul>	<ul style="list-style-type: none"> <li> Project Management Knowledge Areas – Risk Management</li> </ul>	<ul style="list-style-type: none"> <li> Read <u>Critical Chain</u> Chapters 21-22</li> <li> Read <u>Project Management</u> Chapter 7</li> <li> Week #11 Discussion Board</li> <li> Individual Assignment 9</li> <li> Individual Assessment 8 – Risk Management</li> <li> Group Assignment 8 – Prepare a Risk Management Plan</li> </ul>
<p><b>12</b> <b>11/15/10</b></p>	<ul style="list-style-type: none"> <li> Week # 11 Discussion Board</li> <li> Individual Assignment 10</li> <li> Individual Assessment 9</li> </ul>	<ul style="list-style-type: none"> <li> Project Management Knowledge Areas – Procurement Management</li> </ul>	<ul style="list-style-type: none"> <li> Read <u>Critical Chain</u> Chapters 23-24</li> <li> Read <u>Project Management</u> Chapter 14</li> <li> Week # 12</li> </ul>
	<ul style="list-style-type: none"> <li> Group Assignment 8 – Risk Identification, Quantification and Remediation</li> <li> <b>Due no later than 11:59 pm on Sunday, 11/14/10</b></li> </ul>		<ul style="list-style-type: none"> <li>Discussion Board</li> <li> Individual Assignment 10</li> <li> Individual Assessment 9 – Procurement Management</li> <li> Group Assignment 9 – Prepare Procurement Management Plan</li> </ul>



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<p><b>13</b> <b>11/22/10</b></p>	<p> Week # 12 Discussion Board</p> <p> Individual Assignment 10</p> <p> Individual Assessment 9</p> <p> Group Assignment 9 – Preparation of Procurement Management Plan</p> <p> <b>Due no later than 11:59 pm on Sunday, 11/22/10</b></p>	<p> Project Management Code of Ethics and Professional Responsibility</p>	<p> Read <u>Critical Chain</u> Chapters 25</p> <p> Week #13 Discussion Board</p>
<p><b>14</b> <b>11/29/10</b></p>	<p> Week # 13 Discussion Board</p> <p> <b>Due no later than 11:59 pm on Sunday, 11/28/10</b></p>	<p> Critical Chain</p>	<p> Read <u>Project Management</u> Chapter 11</p> <p> Individual Assessment 10 – Critical Chain</p>
<p><b>15</b> <b>12/6/10</b></p>	<p> Individual Assessment 10 – Critical Chain Review</p> <p> <b>Due no later than 11:59 pm on Sunday, 12/5/10</b></p>	<p> Course Review</p>	<p> Finalize Project Management Plan</p>

<p><b>16</b> <b>12/13/10</b></p>	<p> Group Project Management Plan</p> <p> <b>Due no later than 11:59 pm on Sunday, 12/12/10</b></p>	<p> Final Exam</p>	<p> Final Exam – Cumulative - Combination of Multiple Choice and Short Essay</p>
<p><b>12/18/10</b></p>	<p>Final Exam Due</p> <p><b>Due no later than 11:59 pm on Saturday 12/18/10</b></p>		

## STATEMENT REGARDING PROFESSIONAL CONDUCT

Ferris students are expected to conduct themselves in a manner that is conducive to continued growth toward a business and/or professional career. Each student is expected to access classes regularly and to be fully prepared. All students are expected to act professionally and with a high degree of ethical conduct while applying themselves fully to the job of learning. All communications are expected to be conducted in a professional manner, whether written or oral.

It is the student's obligation to know and observe all University policies and procedures and to keep current by reading the materials posted on the Ferris University Web Site and in its printed policies and bulletins.







## STATEMENT REGARDING ACADEMIC MISCONDUCT

Plagiarism, unauthorized collusion on examinations, theft, sale, purchase or other unauthorized procurement of examinations or essay material, use of unauthorized aids while taking an examination, having someone else take an exam in your place or submitting for credit any paper not written by student, taking an exam for another student, copying of "do not copy" designated library materials, copying copyrighted software and destruction of equipment by introducing a computer virus and other similar actions are considered to be academic misconduct and unacceptable for students enrolled at Ferris State University.

## STATEMENT REGARDING DIVERSITY

This course embraces the Ferris Core Values of diversity by providing an environment which is supportive, safe and welcoming. We will listen respectfully to a diversity of ideas, beliefs and cultures presented by the members of the class.

## Core Values

-  **Collaboration:** Ferris contributes to the advancement of society by building partnerships with students, alumni, business and industry, government bodies, accrediting agencies, and the communities the University serves.
-  **Diversity:** By providing a campus which is supportive, safe, and welcoming, Ferris embraces a diversity of ideas, beliefs, and cultures.
-  **Ethical Community:** Ferris recognizes the inherent dignity of each member of the University community and treats everyone with respect. Our actions are guided by fairness, honesty, and integrity.
-  **Excellence:** Committed to innovation and creativity, Ferris strives to produce the highest quality outcomes in all its endeavors.
-  **Learning:** Ferris State University values education that is career-oriented, balances theory and practice, develops critical thinking, emphasizes active learning, and fosters responsibility and the desire for the lifelong pursuit of knowledge.
-  **Opportunity:** Ferris, with a focus on developing career skills and knowledge, provides opportunities for civic engagement, leadership development, advancement, and success.

COB Syllabus Attachment is posted separately.

**ISYS 489 for All Sections**  
**Web-Based Systems Development & Implementation**

**Spring 2011**

**Class Meetings on the below 4 Saturdays 9:30 am – 2:30 pm**

ISYS 489-01 & NTA: 1/15, 2/5, 3/19 and 4/16; BUS 116 @ BR campus

ISYS 489-AGA: 1/22, 2/12, 4/2 and 4/30; ATC 178 @ GR campus

**Instructor Information**

Instructor: Jung Choi

E-mail: [choij2@ferris.edu](mailto:choij2@ferris.edu)

Voicemail: 231-591-3147(O) and 614-327-3061(Cell) Course Homepage:

myfsu.ferris.edu (FerrisConnect) Office: IRC 224

Office hours: MWF 9:15 - 10 a.m. and 12 -12:30 p.m. and other times by appointment

**Course Description**

This course is a capstone course for the CIS major to cover the essential principles, methods and tools of Web-based system development and implementation. This is also a team-oriented course designed to integrate systems analysis and design specifications with programming and implementation practice. Several project deliverables will be assigned to each group. Students also learn about fundamental implementation techniques such as cost estimation, quality and risk management, software testing and maintenance and others.

Topics include Enterprise Architecture, Change Management (CM), SW Testing, Software Quality Management (SQM), Capability Maturity Model Integration (CMMI), Service-oriented Architecture (SOA), Risk Management, Project Cost Estimation (i.e., Function Points, COCOMO I & II), post implementation plan and Web Security Management.

Instructor will stress *managerial* practices in parallel with *technical* implementation techniques.

**Course Objectives**

The main objective of the course is to give students the opportunity of developing and implementing a Web-based system. The course concentrates on the back-end of the Web-based systems development life cycle: implementing user interface, system control interfaces, and database interfaces and integrating various system components and deploy them into a Web-based platform.

In addition, the course provides students the opportunity of learning about the state of the art technologies such as service-oriented architecture (SOA), independent validating and verification (IV&V) and an open source content management systems (CMS).

1. Students will be introduced to Web engineering as a discipline, encompassing architectural framework.
2. Students will practice medium scale of Web-based application development and implementation skills utilizing an open source Web tool, DRUPAL. Specially, the development and implementation of a project will be a *prototype solution*.
3. Students will be introduced to future technology trends and will gain an understanding of how to critically evaluate new trends (i.e., SOA and content management system).
4. Students will be introduced to the topics of quality management, change management, risk management, and project cost estimation techniques.
5. Students will be introduced to the issue of Web Security Management.

**Learning Outcomes**

Upon course completion, students will have demonstrated through projects, reading assignments, and examinations and have enhanced ability beyond that expected from freshman and sophomore students. They will be able:

1. To understand the Web-based systems engineering concepts, architectural framework, and practice of Web-based systems development and implementation.
2. To execute the detailed design in a Web engineering platform.
3. To demonstrate Web-based systems engineering activities such as change/configuration, quality, risk, and security management.
4. To transform the logical and physical design into implementation using Web-based programming language.
5. To generate testing strategies that ensures the accuracy, validity and reliability of the proposed system.
6. To write systems operations manual, user manual, and user training manual.
7. To come up with a strategic plan for maintenance and scalability of the system.
8. To deploy and package various components into a Web-based system.
9. To explain the software project estimation processes such as Function Points and use case points.

### Course Specifics

**Credit:** 3 credit hours

**Prerequisite:** ISYS 288 & ISYS330 & ISYS371

#### Text book:

1. No textbook required
2. Web links and handouts will be distributed via FerrisConnect.

#### Application Development Tools

- ✓ An open source Content Management System (CMS) tool, Drupal in AMP (Apache, MySQL, and PHP) platform

#### Secondary Storage Media:

1. A USB flash drive (minimum 2 GB) is recommended for your assignments.
2. You will be turning in your assignments to the ASSIGNMENTS drop-off box in FerrisConnect. However the work you do for assignments should be saved in your USB flash drive or your computer.

### Class Attendance Policy

Unexcused absences from midterm exam, final exam, and project progress review will result in an automatic failure (F) of the class. It is your responsibility to clear all expected absences with your instructor, prior to being gone, and to be informed of all expected assignments. If you miss an exam without prior communication with the instructor, you may not be allowed to make up the exam. Your instructor will make the final decision as to whether any absence is considered excused. Students ARE NOT to leave the class early unless they are sick.

**Absences for the following reasons** will be viewed as beyond the control of the individual and will not cause a person's grade to be lowered or cause them to withdraw from or fail the class (Unless the absences become as numerous as to make meeting the objectives of the course impossible).

- Death of a family member/or other significant person
- Extended hospitalization of self or child
- University sponsored events
- Jury duty/or being subpoenaed for court testimony
- Inclement weather in which local police agencies suggest it is dangerous to drive
  - Other issues not listed if they fit the criteria of beyond the individual's control

## Teaching Methodologies

The objectives of this course will be attained through a combination of lecture, homework, group project assignments, and 3 quizzes.

**Lecture:** Important materials from Web link sources will be covered in class. Students should plan to take careful notes as not all material can be found in the texts or readings. Lecture notes will be posted in FerrisConnect in advance. You may need to download, print and bring them to the class. Please read the course material prior to the class.

**Homework:** Homework will be assigned after each class meeting to reinforce the materials in the Web link sources. The value of an assignment turned in late will be reduced by 10% daily. Homework assignments will not be accepted if submitted more than *one week* after the due date.

**Group Project Deliverables:** All project assignments are to be completed and dropped in the FerrisConnect by the due date. The value of an assignment turned in late will be reduced by 10% daily. Any assignments will not be accepted if submitted more than *one week* after the due date. If you must miss class for any reason, it is your responsibility to get the notes and find out what you missed.

Each group members' participation will be evaluated periodically or will be monitored by instructor. The possible 25% will be adjusted according to this peer review or instructor's observation.

### Quizzes/Exam

Three quizzes and final exam will be given. Each quiz will be held in the class meeting (see the course schedule). The final exam will be a take-home test.

The quizzes and final exam will test assigned readings and material discussed in class. Exam review sheets will be provided prior to the exam day. The final exam will not be comprehensive in nature. However, the instructor reserves the right to retest on material that was not appropriately comprehended. Materials included in the exams will be taken from handouts, Web links and class lecture/discussions.

**Make-up exam** will be permitted only for the following reasons.

- 1) Death of an immediate family member
- 2) Personal illness requiring attention by physician
- 3) Illness of an immediate family requiring your personal attention
- 4) Travel out-of-town required by your employer or school
- 5) An emergency and/or situation at the discretion of the instructor

### Grading Policy

Achievement of the course objectives by participants will be assessed using the following instruments: midterm exam, homework, group project deliverables, attendance & participation, and performance on the final exam. Below is a breakdown of individual assignments and their corresponding contributions to the final letter grade in this course. To keep it simple we use a 100 point scale for the course, with a percentage contributed by each type of assignment.

Except for minor adjustments based upon the final distribution of scores, this course will not be graded on a curve. However, in this course you can earn *bonus points* based upon the level of performance improvement, the level of attendance and participation at the time of final grading. As a note, you will not be eligible to earn bonus points if you miss the class more than 4 hours (equivalent to 1 class meeting) during the course. Bonus points will substitute for the usual curve, thus the grades are "curved on merit."

Grading will be on a "straight scale." The scale is the standard 90, 80, 70, 60 scales, etc. Each component of the course grade will be weighted according to the following table:

Type	Note	Distribution
Quizzes (3)	T/F, MC, and short essay	3 x 10 = 30%
Final Exam	Take-home/Comprehensive	15%
Homework (3)		3 x 5 = 15%
Group Project Deliverables (2-3)		30%
Attendance & Participation		10%
<b>Total</b>		<b>100%</b>

### Grading Scale

92.5 <= A <= 100	87.5 <= B+ < 90	77.5 <= C+ < 80	67.5 <= D+ < 70	0 <= F < 60
90 <= A- < 92.5	82.5 <= B < 87.5	72.5 <= C < 77.5	62.5 <= D < 67.5	
	80 <= B- < 82.5	70 <= C- < 72.5	60 <= D- < 62.5	

### Email Correspondence

The email title must begin with ISYS489 and short title (e.g., isys489\_ *title*). All homework deliverables (either e-copy or hard copy) should have a title information on the upper and right hand corner of the first page. Example: isys489\_HW1, John Doe. The attached e-file name should begin with isys489\_HW#\_the initial of your first name and last name. Example: isys489\_hw1\_jdoe. No cover page is required, please!

### Academic Dishonesty

Plagiarism and cheating are serious offenses and may be punished by failure on an exam, assignment, or failure in the course. It is the policy of this instructor to pursue the most severe penalties available in cases of academic dishonesty. This includes, but is not limited to, copying pseudo code from another students or obtaining answers from others on Tests.

Due to the current advanced technology trend such as wireless campus network, **laptop** will be allowed to enhance your leaning experience in the class. But use it for just note taking, especially for class purposes. The laptop should not be used for reading newspapers, playing games or some other entertainment during the class. If instructor is noticed for such uses other than the class purpose, then your grade will be impacted negatively. Tolerance level is ZERO!

### Students with Disabilities

Students with special needs must present the instructor with such documentation in sufficient time for accommodation.

### Final Note

**Policy Revision:** I will reserve the right to make changes to the syllabus or to the above stated procedures if deemed appropriate. If changes are made, the student will be advised as part of the in-class lecture.

**ISYS 489\_ALL Sections  
Course Schedule (subject to change)**

Class Date	Topic	Note
<b>1<sup>st</sup> Class</b> ✓ Section 01 & NTA – Jan. 15 ✓ Section AGA – Jan. 22	➤ Introduction to course ➤ Enterprise Architecture ➤ Change Management (CM) ➤ <b>Project Discussion/Lab 1 - Drupal</b>	
<b>2<sup>nd</sup> Class</b> ✓ Section 01 & NTA – Feb. 5 ✓ Section AGA – Feb. 12	➤ <b>Quiz 1</b> ➤ <b>Project Discussion/Lab 2 - Drupal</b> ➤ Software Testing ➤ SW Quality Management ➤ Capability Maturity Model Integration (CMMI)	
<b>March 25</b>	<b>Last day for "W" grades</b>	
<b>3<sup>rd</sup> Class</b> ✓ Section 01 & NTA – March 19 ✓ Section AGA – April 2	➤ <b>Quiz 2</b> ➤ <b>Project Discussion/Lab 3 - Drupal</b> ➤ Service Oriented Architecture (SOA) ➤ Risk Management ➤ Project Cost Estimation	
<b>4<sup>th</sup> Class</b> ✓ Section 01 & NTA – April 16 ✓ Section AGA – April 30	➤ <b>Quiz 3</b> ➤ <b>Project Discussion/Lab 4 - Drupal</b> ➤ Post Implementation Plan ➤ Web security management	
<b>Final Exam</b>	➤ Take-home/Comprehensive	



## **Appendix D**

### **CIS Checksheets**

**FERRIS STATE UNIVERSITY -- COLLEGE OF BUSINESS  
ACCOUNTANCY, FINANCE & INFORMATION SYSTEMS  
DEPARTMENT ASSOCIATE IN APPLIED SCIENCE  
DEGREE  
COMPUTER INFORMATION SYSTEMS  
(60/61CREDITS)**

**NAME:** \_\_\_\_\_

**ID#:** \_\_\_\_\_

**COMMUNICATION COMPETENCE – 9 Credits Required**

REQUIRED		COURSE TITLE WITH PREREQUISITES SHOWN IN BRACKETS ( )	CREDITS	GRADE
COMM	121	Fundamentals of Public Speaking (None)	3	
ENGL	150	English 1 (ENGL 074 w/C- or 14 ACT or 370 SAT)	3	
ENGL	250	English 2 (ENGL 150 w/C- or better)	3	

**SCIENTIFIC UNDERSTANDING – 3 Credits  
Required**

*Consult the Ferris Web site: [www.ferris.edu/htmls/academics/gened/scicourses.html](http://www.ferris.edu/htmls/academics/gened/scicourses.html) for approved courses.*

REQUIRED		COURSE TITLE WITH PREREQUISITES SHOWN IN BRACKETS ( )	CREDITS	GRADE
		Scientific Understanding with Lab	4	

**QUANTITATIVE SKILLS – 3 Credits Required**

REQUIRED		COURSE TITLE WITH PREREQUISITES SHOWN IN BRACKETS ( )	CREDITS	GRADE
MATH	115	Intermediate Algebra (MATH 110 w/C- or 19 ACT or 460 SAT) NOTE: If Math ACT of 24+, it becomes a General Ed elective.	3	

**CULTURAL ENRICHMENT – 3 Credits Required**

REQUIRED		COURSE TITLE WITH PREREQUISITES SHOWN IN BRACKETS ( )	CREDITS	GRADE
PHIL	216	Introduction to Ethics (second semester freshman standing)	3	

**ADDITIONAL GENERAL EDUCATION – 3 Credits Required**

REQUIRED		COURSE TITLE WITH PREREQUISITES SHOWN IN BRACKETS ( )	CREDITS	GRADE
		General Ed elective	3	

**PROFESSIONAL BUSINESS COMPONENT – 15 Credits Required**

REQUIRED		COURSE TITLE WITH PREREQUISITES SHOWN IN BRACKETS ( )	CREDITS	GRADE
ECON	221	Principles of Macroeconomics (MATH 110 w/C- or better or 19 ACT or 460 SAT) <u>SOCIAL AWARENESS</u>	3	
ACCT	201	Principles of Accounting 1 (MATH 110 w/C- or better or 19 ACT or 460 SAT)	3	
STQM	260	Intro. to Statistics (MATH 115, 116, 120, 126, 130, 132 or 135 w/C- or better or 24 ACT or 560 SAT)	3	
BLAW	321	Contracts and Sales (None)	3	
MKTG	321	Principles of Marketing (Sophomore status or higher)	3	

**COMPUTER INFORMATION SYSTEMS CORE –12 Credits Required**

REQUIRED		COURSE TITLE WITH PREREQUISITES SHOWN IN BRACKETS ( )	CREDITS	GRADE
ISYS	110	Fundamentals of Computer Information Systems (ISYS 105 or demonstrated competency)	3	
ISYS	200	Database Design & Implementation (ISYS 105 or demonstrated competency)	3	
CITS	150	A+ Certification 1 (none)	3	
CITS	160	A+ Certification 2 (CITS150 or Co-req.)	3	

**CHOOSE ONLY ONE CONCENTRATION FROM BELOW**

REQUIRED		SYSTEMS SUPPORT CONCENTRATION – 12 Credits Required	CREDITS	GRADE
CITS	250	Windows Client Administration (ISYS 105 or demonstrated competency)	3	
CITS	255	Windows Server Environment (CITS 250)	3	
CITS	260	Windows Server Infrastructure (CITS 250)	3	
		CITS270 Network+ (CITS 160) or CITS 280 Linux 1 (ISYS 105 or demonstrated comp. or CITS 160)	3	

REQUIRED		PROGRAMMING CONCENTRATION – 12 Credits Required	CREDITS	GRADE
ISYS	204	Introduction to Visual Basic Programming (ISYS 105 or demonstrated competency)	3	
ISYS	216	Introduction to Java Programming (ISYS 110 and MATH 115 w/C or better or 24 ACT or 560 SAT)	3	
ISYS	288	Web Application Development (ISYS 200)	3	
ISYS	316	Advanced java Programming (ISYS 216 or ECNS 311)	3	

REQUIRED	CUSTOM CONCENTRATION – 12 Credits Required (Courses must be pre-approved by Faculty Advisor & Program Coordinator)	CREDITS	GRADE
	Recommend ISYS291 – CIS Internship or CITS291 – CIT Internship	3	
		3	
		3	
		3	

**NOTICE REGARDING WITHDRAWAL, RE-ADMISSION AND INTERRUPTION OF STUDIES**

Students who return to the university after an interrupted enrollment of 2 semesters (excluding summer) must normally meet requirements of the curriculum which are in effect at the time of their return, not the requirements which were in effect when originally admitted.

**NOTICE REGARDING GPA REQUIREMENTS**

Students must maintain a 2.0 Cumulative GPA in the following four areas: overall; Professional Business Component; CIS Core; chosen concentration.

**NOTICE REGARDING ISYS 105 & MATH 115 REQUIREMENTS**

CIS students must be able to demonstrate competency in ISYS 105 topics or take ISYS 105, and be proficient in MATH 115 (or greater).  
**Effective:** 8/30/2010

## Associate degree in COMPUTER INFORMATION SYSTEMS Recommended Semester Layout

### Freshman Year

FALL SEMESTER	
COURSE	CREDITS
ENGL 150	3
Math 115	3
CITS 150	3
CITS 160	3
ISYS 105 (if needed) or ISYS 110	3
FSUS 100 – Univ. Requirement	1
TOTAL	16

SPRING SEMESTER	
COURSE	CREDITS
Gen Ed Elective	3
Science Elective w/Lab	4
ISYS 110 (if needed) or Concentration Elective	3
COMM 121	3
ISYS 200	3
TOTAL	16

### Sophomore Year

FALL SEMESTER	
COURSE	CREDITS
ENGL 250	3
ECON 221	3
ACCT 201	3
STQM 260	3
Concentration Elective	3
Concentration Elective( if needed)	3
TOTAL	15 -18

SPRING SEMESTER	
COURSE	CREDITS
PHIL 216	3
BLAW 321	3
MKTG 321	3
Concentration Elective	3
Concentration Elective	3
TOTAL	15

**This document is NOT an official program check sheet and is used for advising purposes only**

**BACHELOR OF SCIENCE COMPUTER INFORMATION SYSTEMS 126 credits**

NAME: \_\_\_\_\_

Student ID# \_\_\_\_\_

Required	Course Title - Prerequisites Shown in Brackets ( )	Crs	Gr	Gr Pt
<b>COMMUNICATION COMPETENCE - 15 Credits Required</b>				
COMM 121	Fundamentals Of Public Speaking (None)	3		
COMM 336	Technical and Professional Communication (COMM 121 w/C or better or COMH 121 or COMM 201)	3		
ENGL 150	English 1 (ENGL 074 w/C- or 14 A03 or 370 S01 or 500 T01 or 173 T02 or 370 S05)	3		
ENGL 250	English 2 (ENGL 150 w/ C- or better)	3		
ENGL 325	Advanced Business Writing – (ENGL 250 or ENGL 211 w/C or better)	3		
<b>SCIENTIFIC UNDERSTANDING – 7 Credits Required</b>				
Consult the Ferris website: <a href="http://www.ferris.edu/htmls/academics/gened/scicourses.html">www.ferris.edu/htmls/academics/gened/scicourses.html</a> for approved courses.				
	Scientific Understanding with Lab	4		
	Scientific Understanding	3		
<b>QUANTITATIVE SKILLS – 3 Credits Required</b>				
MATH 115*	Intermediate Algebra (MATH 110 w/C- or better or 19 A02 or 460 S02 or 16 ALG1 or 01 ALG 2, or 460 S06)	3		
*Must pass w/C or better before enrolling in ISYS 216				
<b>CULTURAL ENRICHMENT – 9 Credits Required**</b>				
Consult the Ferris website: <a href="http://www.ferris.edu/htmls/academics/gened/cultcourses.html">www.ferris.edu/htmls/academics/gened/cultcourses.html</a> for approved courses.				
PHIL 216	Introduction to Ethics (Second semester freshman standing)	3		
	Cultural Enrichment Elective	3		
	Cultural Enrichment Elective	3		
<b>SOCIAL AWARENESS – 9 Credits Required</b>				
Consult the Ferris website: <a href="http://www.ferris.edu/htmls/academics/gened/soccourses.html">www.ferris.edu/htmls/academics/gened/soccourses.html</a> for approved courses				
<b>REMAINDER OF SOCIAL AWARENESS CREDITS SATISFIED WITH RELATED COURSES</b>				
	Social Awareness Elective	3		
<b>ADDITIONAL GENERAL EDUCATION – 5 Credits Required**</b>				
Consult the Ferris website: <a href="http://www.ferris.edu/HTMLS/academics/gened/courses.html">www.ferris.edu/HTMLS/academics/gened/courses.html</a> for approved courses				
	Gen Ed Elective	3		
	Gen Ed Elective	2		
<b>RELATED COURSES – 6 Credits Required</b>				
ECON 221	Principles of Macroeconomics 1 (MATH 110 w/C- or better or 19 A02 or 460 S02 or 460 S06)	3		
ECON 222	Principles of Microeconomics 2 (ECON 221)	3		

\*\*Global consciousness and race ethnicity or gender requirements must be met either through Cultural Enrichment, Social Awareness or General Education courses.

Advising Notes:

FSUS 100 is satisfied by  
Global consciousness requirement satisfied by  
Race, ethnicity, gender requirement satisfied by

**Note: CIS Students must be able to demonstrate competency in ISYS 105 topics or take ISYS 105.**

**NOTICE REGARDING WITHDRAWAL, RE-ADMISSION AND INTERRUPTIONS OF STUDIES**

Students who return to the university after an interrupted enrollment (excluding summer) must normally meet requirements of the curriculum which are in effect at the time of their return, not the requirements which were in effect when originally admitted.

Effective Fall 2005 –Revised Fall 2011

Required	Course Title - Prerequisites Shown in Brackets ( )	Crs	Gr	Gr Pt
<b>BUSINESS CORE COURSES - 30 Credits Required</b>				
ACCT 201	Principles of Accounting 1 (MATH 110 w/C- or better or 19 ACT or 460 SAT)	3		
ACCT 202	Principles of Accounting 2 (ACCT 201 w/C- or better)	3		
STQM 260	Introduction to Statistics (MATH 115, 116, 120, 126, 130, 132 or 135 w/C- or better or 24 ACT or 560 SAT)	3		
BLAW 321	Contracts and Sales (None)	3		
FINC 322	Financial Management 1 (ACCT 202 and MATH 115 or 24 A0T)	3		
ISYS 321	Business Information Systems (ACCT 202 and MKTG 321 and MGMT 301)	3		
MKTG 321	Principles of Marketing (Sophomore status or higher)	3		
MGMT 301	Applied Management (None)	3		
MGMT 370	Quality/Operations Management (Sophomore status or instructor permit)	3		
BUSN 499	Interdisciplinary Integrating Experience (MGMT 370 and MKTG 321 and FINC 322 or MGMT 350 w/instr. permit and senior status)	3		
<b>COMPUTER INFORMATION SYSTEMS MAJOR – 36 Credits Required</b>				
<b>REQUIRED</b>	<b>COURSE TITLE WITH PREREQUISITES SHOWN IN BRACKETS ( )</b>	<b>Crs</b>	<b>Gr</b>	<b>Gr Pt</b>
ISYS 110	Fundamentals of Computer Information Systems (None)	3		
ISYS 200	Database Design & Implementation (ISYS 105 or competency)	3		
ISYS 216	Introduction to Java Programming (ISYS 110 and MATH 115 w/C or better or A02 of 24 or S06 of 560)	3		
ISYS 288	Web Application Development (ISYS 200)	3		
ISYS 316	Advanced Java Programming (ISYS 216 or ECNS 311)	3		
ISYS 325	Networking Essentials (ISYS 105 or competency)	3		
ISYS 330	Systems Analysis & Design (ISYS 200 and ISYS 216)	3		
ISYS 371	Adv. DB Design/Implementation (ISYS 200 and ISYS 216)	3		
PROJ 320	Project Management Fundamentals (Soph. standing or instructor approval.)	3		
ISYS 470	Database Administration (ISYS 371)	3		
ISYS 489	Web-Based Systems Development & Implementation (ISYS 288 and ISYS 330 and ISYS 371)	3		
ISYS 491	Internship	3		
<b>DIRECTED ELECTIVES – 12 Credits Required</b>				
1. It is <b>strongly recommended</b> that each student obtain advisor approval before selecting elective courses to avoid possible conflicts.				
2. Example concentrations can include a mix of programming courses, network courses, transferred courses from another program or institution, another program's minor, or other related Ferris academic program courses that provide skills necessary for managing or supporting IT resources. See the <b>CIS Electives Guidelines</b> for recommendations.				
3. Student is expected to participate in a professional organization for at least 2 years. Highly Recommend ATP!!!				
<b>Course</b>	<b>Write Course Title</b>	<b>Crs</b>	<b>Gr</b>	<b>Gr Pt</b>
		3		
		3		
		3		
		3		

**Notice Regarding GPA Requirements**

**Students must maintain a 2.00 Cumulative GPA in all FSU courses, a 2.0 GPA in the Business Core, and a 2.0 GPA in the CIS Major.**

## BS in COMPUTER INFORMATION SYSTEMS Recommended Semester Layout Freshman Year

FALL SEMESTER	
COURSE	CREDITS
ENGL 150	3
Math 115	3
Cultural Enrichment Elective	3
ISYS 105 (if needed)	3
ISYS 110	3
FSUS 100 – Univ. Requirement	1
TOTAL	16

SPRING SEMESTER	
COURSE	CREDITS
Gen Ed Elective	3
Science Elective w/Lab	4
Cultural Enrichment Elective	3
COMM 121	3
ISYS 200	3
TOTAL	16

### Sophomore Year

FALL SEMESTER	
COURSE	CREDITS
ENGL 250	3
ECON 221	3
ACCT 201	3
ISYS 216	3
ISYS 288	3
TOTAL	15

SPRING SEMESTER	
COURSE	CREDITS
PHIL 216	3
Science Elective (no lab required)	3-4
ECON 222	3
ACCT 202	3
ISYS 316 (offered spring only)	3
TOTAL	15-16

NOTE: Students should consider an Internship following completion of their sophomore year.

### Junior Year

FALL SEMESTER	
COURSE	CREDITS
STQM 260	3
MGMT 301	3
BLAW 321	3
ISYS 330	3
ISYS 371 (offered fall only)	3
Directed Elective	3
TOTAL	18

SPRING SEMESTER	
COURSE	CREDITS
ENGL 325	3
Gen Ed Elective	2-3
FINC322	3
ISYS 325	3
ISYS 470 (offered spring only)	3
Directed Elective	3
TOTAL	17-18

NOTE: ISYS491 – Internship (3 credits) – Student required internship should be completed prior to senior year.

### Senior Year

FALL SEMESTER	
COURSE	CREDITS
Soc Aware	3
MGMT370	3
ISYS321	3
PROJ 320	3
Directed Elective	3
TOTAL	15

SPRING SEMESTER	
COURSE	CREDITS
COMM 336	3
MKTG 321	3
BUSN 499	3
ISYS 489 (offered spring only)	3
Directed Elective	3
TOTAL	15

REMEMBER: STUDENT IS EXPECTED TO PARTICIPATE IN A PROFESSIONAL ORGANIZATION FOR AT LEAST 2 YEARS. Highly recommend AITP!!!

**This document is NOT an official program check sheet and is used for advising purposes only**

EFFECTIVE: Fall 2010

## COMPUTER INFORMATION SYSTEMS MAJOR

### ELECTIVES GUIDELINES

1. Students wishing to complete any minor offered on campus (other than a CIS minor) may use the directed electives to achieve this goal. Since there are 4 open electives, two courses would be needed to complete a minor of 18 credits. Most certificates only require 12 credits, or typically, 4 courses. Note: Both minor's and certificates require that 50% or more of the credit our not required by your major.
2. It is strongly recommended that you see an advisor before selecting and taking electives.
3. Transfer students would typically use these electives to fulfill elective requirements with transferred course work that may not be equivalent to Ferris courses required in the core OR appropriate substitutions.

SUGGESTED ELECTIVE TRACKS				
TYPE OF JOB	ELECTIVE #1	ELECTIVE #2	ELECTIVE #3	ELECTIVE #4
Network Administration	ISYS 277	ISYS 307	ISYS 310	HSCJ 202
Programmer/Analyst	ISYS 204	ISYS 304	ISYS220	ISYS265
(Cicso) CCNA certification (Note: must pass certification exam after completing course work)	ECNS 115	ECNS 125	ECNS 215	ECNS 225

SUGGESTED ELECTIVE CERTIFICATES				
TYPE OF JOB	ELECTIVE #1	ELECTIVE #2	ELECTIVE #3	ELECTIVE #4
Data Mining	STQM 270	STQM 342	STQM 380	OPEN
E-Commerce Marketing	ECOM 375	ECOM 383	AIMC 375	OPEN
Homeland Security - CJ	HSCJ 202	HSCJ 210	HSCJ 315	HSCJ 317
International Business	INTB 310	INTB 320	INTB 335	INTB 440 or MKTG 441
Geographic Information Systems (GIS)	GISC 225	GISC 282	GISC 382	OPEN

SUGGESTED ELECTIVES BY COURSE NUMBER & TITLE	
AIMC 375 - Business-to-Business Advertise	ISYS 204 – Introduction to Visual Basic.net
ECNS 115 – Network s1	ISYS 220 – Introduction to COBOL Programming
ECNS 125 – Networks 2	ISYS 265 – Midrange Online Program Development
ECNS 215 – Networks 3	ISYS 270 – Fundamentals of Hardware & OS
ECNS 225 – Networks 4	ISYS 277 – Linux Network Administration
ECOM 375- Bus to Bus E-Commerce MKTG	ISYS 304 – Advanced Visual Basic.net
ECOM 383- Bus to Con E-Commerce MKTG	ISYS 307 – Microsoft Network Administration
HSCJ 202 – Principles of Information Security	ISYS 310 – Novell Network Administration
HSCJ 210 – Digital Forensics & Incidence Response	ISYS 422 – Network Security Management
HSCJ 315 – Advanced Digital Forensics & Response	ISYS 490 – Special Topics (1-3 credits)
HSCJ 317 – Fraud Examination	ISYS 491 – Internship (1-6 credits)
GISC 225 - Principles of GIS	MKTG 441 - International Marketing
GISC 282 -Geographic Information Systems 2	STQM 270 - Intro to Data Mining
GISC 382 -GIS Data Analysis-Specialist	STQM 342- Data Mining Tools
INTB 310- International Business Systems	STQM 380- Data Mining Processes
INTB 320- International Logistics	OPEN – Additional Elective not required for track or certificate
INTB 335- Cross-Cultural Business	
INTB 440- International Finance	<b>See your Advisor for any other elective options!!!!!!!!!!!!</b>

EFFECTIVE: Fall 2010

# CIS COURSE DESCRIPTIONS

## BS IN CIS

**DATE:** Fall 2010

**CREDIT:** All CIS courses are 3 credits unless specifically shown.

### **ISYS 105 - INTRODUCTION TO MICROCOMPUTER**

**APPLICATIONS:** Use of common micro application software, including: windows type operating systems, word processing, spreadsheets, presentation software, and the Internet.

**Prerequisite:** None. (*ISYS105 is the prerequisite for many ISYS courses.*)

### **ISYS 110 - FUNDAMENTALS OF COMPUTER INFORMATION**

**SYSTEMS:** The programming component introduces fundamental programming and development concepts, data types and variables, instruction sets, number systems, flow control and logical operations, modularity and structure, and object-oriented programming. The operating systems component contains a tour of popular operating systems, file management, file structures, and computer hardware. The Internet component introduces searching the World Wide Web using an Internet browser, sending Electronic mail, moving files with FTP, and creating web pages using HTML.

**Prerequisite:** None

**ISYS 200 - DATABASE DESIGN & IMPLEMENTATION:** Introduces database concepts, design methodologies, and implementation procedures. Stresses the importance of sound database design to insure data integrity and flexibility. Common data structures, normalization techniques, integrity constraints, security features, query and report facilities are discussed. One or more popular commercial database management systems will be used to implement the designs.

**Prerequisite:** ISYS 105 or demonstrated competency.

### **ISYS 204 - INTRODUCTION TO VISUAL BASIC PROGRAMMING:**

Visual BASIC, an Object-Oriented Event Driven (OOED) Programming language, interwoven with logical problem solving will be used to create programs for Windows-based applications that are used in industry today. The programs will include multiple forms, buttons, input boxes, IF then ELSE and loop processing, frames, and option buttons.

**Prerequisite:** ISYS 105 or demonstrated competency.

### **ISYS 216 - INTRODUCTION TO JAVA PROGRAMMING:**

Introduces the JAVA platform and the essentials of non-graphical, object-oriented JAVA programming. Topics include primitive data types and operations, flow control, language syntax and debugging, packaged classes and methods, custom methods, strings, arrays, custom classes and subclasses and fundamentals of object-oriented programming.

**Prerequisites:** ISYS 110 and MATH 115 (w/C or better, or A02 of 24)

### **ISYS 220 - INTRODUCTION TO COBOL PROGRAMMING:**

Introduction to a common, business-oriented programming language. Coverage of COBOL divisions and basic sequential access programs including input data edits, file updates, control breaks, and tables. Emphasis is on structured programming methodology. A popular commercial COBOL programming environment will be used to develop projects.

**Prerequisites:** ISYS 110 and MATH 115 (w/C or better) or A02 24 or S02 560 or S06 560.

### **ISYS 265 - MIDRANGE ONLINE PROGRAM DEVELOPMENT:**

Online programming on the AS/400 including simple and sub file inquiry, and Updates. Use of SDA for menu and screen development and viewing and help Information development.

**Prerequisite:** ISYS 110.

### **ISYS 270 - FUNDAMENTALS OF HARDWARE & OPERATING**

**SYSTEMS:** Provides preparation for the A+ Certification Exams. Students will study and prepare to take the core hardware and operating system technology exams by taking practice exams.

**Prerequisite:** None.

### **ISYS 277 - LINUX NETWORK ADMINISTRATION:**

Introduction to the Linux operating system. Install the Linux operating system. Perform system administration tasks. Use the graphical user interface. Customize the shell environment. Create user accounts. Prepare for hardware failure. Manage system resources. Demonstrate advanced administration techniques with networking services, security, and intrusion detection.

**Prerequisite:** ISYS 105 or demonstrated competency.

### **ISYS 288 – WED APPLICATION DEVELOPMENT (3cr):**

This course is designed to provide the student with the necessary skills to effectively develop Web applications. Specifically, the course will explore the Web application development techniques using PHP and MySQL. Topics include Web servers, client side and server side scripting, and Web application database interfaces. Other topics discussed in this class include Web application security, session management, and quality features. Advanced topics such as XML and Cascading Style Sheets are also introduced.

**Prerequisite:** ISYS 200

### **ISYS 290 - SPECIAL TOPICS IN ISYS (1-3 cr):**

The study of current topics not covered in other information systems 200-level courses. The course description will be provided for each offering. Specific requirements will be provided when class is offered.

**Prerequisite:** None.

### **ISYS 291 – CIS INTERNSHIP (1-3 cr):**

Work experience with cooperating employer organizations in business, industry, government, and education. The work experience is designed to be relevant to the student's academic pursuits, personal development, and professional preparation. The work experience must last a minimum of 12 weeks. Credits awarded base on total hours worked during the internship. 1 credit minimum 80 hours, 2 credits minimum 160 hours, 3 credits minimum 240 hours. Detailed summary report of work experience required at end of internship.

**Prerequisites:** Sophomore standing and 30+ earned credits in program

### **ISYS 297 - SPECIAL STUDIES IN ISYS (1-3 cr):**

Special studies in ISYS at the 200-level. Specific requirements will be provided by the sponsoring faculty member when class is offered.

**Prerequisite:** None.



**ISYS 304 - ADVANCED VISUAL BASIC PROGRAMMING:** Visual BASIC will be used to solve advanced business problems. These programs will include (OLE) interface to other programs, databases, business reports and error handling. The final program will include a program using setup that can be used on any windows machine.  
Prerequisite: ISYS 204.

**ISYS 307 - MICROSOFT NETWORK ADMINISTRATION:** Introduces administration of Microsoft's Server Networking operating system, and leads to knowledge needed in preparation for certification. It includes the knowledge, skills, and hands-on experience required to implement Microsoft's Server operating system. The student will have a working knowledge of Active Directory and Security including: installing server software; configuration of server software & storage; managing accounts & clients; managing groups, folders, files, and object security; managing Dfs, disk Quotas, and Software Installation; installing and managing printers; remote Access & Virtual Private Networks; and managing the Internet.  
Prerequisite: ISYS 105 or demonstrated competency.

**ISYS 310 - NOVELL NETWORK ADMINISTRATION:** Introduces administration of Novell's Networking operating system. It is designed to prepare the student for the Certified Novell Administration (CNA) exam. It includes the knowledge, skills, and hands-on experience required to implement Novell's networking services. The student will have a working knowledge of eDirectory services including installing server software, creating container objects, creating users and groups, managing trustee assignments and file attributes, login scripts, and management of printing services.  
Prerequisite: ISYS 105 or demonstrated competency.

**ISYS 316 - ADVANCED JAVA PROGRAMMING FOR WEB DEVELOPMENT:** Introduces graphical and advanced JAVA features to develop event-driven Windows programs and applets. Topics include the Abstract Windows Toolkit, containers and layout managers, components, listeners and event handlers, menu bars, exception handling, file and database access, client/server applications and server-side (Web-based) applications.  
Prerequisite: ISYS 216 or ECNS 311.

**ISYS 321 - BUSINESS INFORMATION SYSTEMS:** Introduction to strategic information systems functions. Provides an integrating experience that enables a student to demonstrate the capacity to synthesize and apply knowledge from an organizational perspective. Included are the uses of information technology to grow, expand, and efficiently and profitably manage an organization. Of particular focus are the interrelationships between information systems. An interdisciplinary team project is required.  
Prerequisites: ACCT 202 and MKTG 321 and MGMT 301.

**ISYS 325 - NETWORKING ESSENTIALS:** A study of networking hardware, transmission media, communication protocols, the Open System Interconnection (OSI) model, and distributed networking/processing. The equipment, techniques, and software utilized in networks are presented. Appropriate terminology and concepts utilized in networks are introduced. Lecture and hands on experience with designing, planning, installing and maintaining a Local Area Network.  
Prerequisite: ISYS 105 or demonstrated competency.

**ISYS 330 - SYSTEMS ANALYSIS & DESIGN:** This course is designed to provide the student with the necessary skills to effectively analyze the information system requirements for business applications and successfully design an information system to meet those requirements. This course focuses on constructing problem frames, identifying and describing the problems and providing an alternative design solution. Leading edge tools, techniques, and concepts will be presented through the course. This course Fulfills General Education "writing intensive course" requirements.  
Prerequisites: ISYS 200 and ISYS 216

**ISYS 371 - ADVANCED DATABASE DESIGN & IMPLEMENTATION:** Emphasis is placed on Entity-Relationships and Relational models, data definition languages, and manipulation languages. Structured Query Language (SQL) is used to develop database objects such as databases, logs, tables, indexes, views, constraints, defaults, roles, rules, stored procedures, and triggers. Database design is reviewed. Application development and modeling tools are discussed. Projects requiring the development of integrated databases are assigned.  
Prerequisites: ISYS 200 and ISYS 216.

**ISYS 390 - SPECIAL TOPICS IN ISYS (1-3 cr):** The study of current topics not covered in other information systems 300-level courses. The course description will be provided for each offering. Specific requirements will be provided when class is offered.  
Prerequisite: None.

**ISYS 397 - SPECIAL STUDIES IN ISYS (1-3 cr):** Special studies in ISYS at the 300-level. Specific requirements will be provided by the sponsoring faculty member when class is offered.  
Prerequisite: None.

**PROJ 320 - PROJECT MANAGEMENT FUNDAMENTALS:** An in-depth study of project management techniques currently employed for business and information systems projects. Topical areas will include project organization, planning administration control and leadership. The need for accurate estimating, scheduling, communicating and reporting will be stressed through the use of several cases/projects.  
Prerequisite: Sophomore standing or instructor approval.

**ISYS 422 - NETWORK SECURITY MANAGEMENT:** Provides an overview of network security management, and gives students a basic understanding of how to make a network secure. The impact of network security issues on a business and how security is meant to help a business implement a business plan is discussed. The general dimension of providing security for information processing systems, secure operating systems and applications, network security, cryptography, and security protocols are examined.  
Prerequisites: ISYS 307 or ISYS 310 and ISYS 325.

**ISYS 470 - DATABASE ADMINISTRATION:** Advantages and requirements of client/server computing are discussed. Methodologies for designing, developing, maintaining and disseminating client/server systems are taught. Client/server applications, connectivity issues, software development tools, and database design and implementation methodologies are topics covered. Additional topics include database administration, transaction rollback and commit, data warehousing, data mining, and database security. Projects requiring the design of a distributed data processing network are required.  
Prerequisite: ISYS 371

**ISYS 489 – WEB-BASED SYSTEMS DEVELOPMENT & IMPLEMENTATION** This course covers the principles, methods and tools of system development and implementation. The course will explore major software development and implementation techniques by working on a case project. This is a team-oriented course designed to implement systems design specifications with using web- based programming tools and techniques. Students also learn about various software engineering techniques such as quality management, risk management, configuration and change management.

Prerequisites: ISYS 288 and ISYS 330 and ISYS 371

**ISYS 490 - SPECIAL TOPICS** (1-3 cr): The study of current advanced topics not covered in other information systems courses at the 400-level. The course description will be provided for each offering. Specific requirements will be provided when the class is offered.

Prerequisite: None.

**ISYS 491- CIS INTERNSHIP** (1-6 cr): Work experience with cooperating employer organizations in business, industry, government, and education. The work experience is designed to be relevant to the student's academic pursuits, personal development, and professional preparation. The work experience must last a minimum of 12 weeks with a minimum of 240 total hours worked. Detailed summary report of work experience required at end of internship.

Prerequisites: Junior standing and 60+ earned credits in program

**ISYS 497 - SPECIAL STUDIES IN ISYS** (1-3 cr): Special studies in ISYS at the 400-level. Specific requirements will be provided by the sponsoring faculty member when class is offered.

Prerequisite: Senior status



# FERRIS STATE UNIVERSITY

## COLLEGE OF BUSINESS

### AFIS DEPARTMENT

(Accountancy, Finance &  
Information Systems)

#### Certificates:

##### Undergraduate

- ❖ Advanced Studies in Investment
- ❖ Homeland Security: Digital Security & Forensics
- ❖ Project Management

##### Graduate

- ❖ Advanced Studies in Business Intelligence & Informatics
- ❖ Advanced Studies in Information Security & Networking Management
- ❖ Advanced Studies in Project Management

#### Minors:

- ❖ Accountancy
- ❖ Computer Information Systems (CIS)
- ❖ Finance

#### AAS Programs:

- ❖ Accountancy
- ❖ Computer Information Systems (CIS)

#### BS Programs:

- ❖ Accountancy
- ❖ Computer Information Systems (CIS)
- ❖ Computer Information Technology (CIT)
- ❖ Finance
- ❖ Information Security & Intelligence (ISI)

#### BS Dual Majors

- ❖ Accountancy & Finance
- ❖ Accountancy & CIS

#### MS Programs:

- ❖ Information Systems Management

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Department Head

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August 16, 2011

Dr. Matt Wagenheim, Chair  
Academic Program Review Council  
College of Education & Human Services (SRC 102B)  
Ferris State University

Re: CIS Program Review - DH Comments

An overwhelming majority of the CIS faculty care about student learning, and are student-centered in their approach to teaching. There is one aspect of the APR that would benefit from amplification or a different perspective:

#### Section 3 (Enrollment) & Section 5 (Conclusions):

According to the Ferris Fact Book, total CIS program enrollment declined 5% (6) from 2006-2010; however, there was a decline of 13% (19) from 2007-2010. Unfortunately, there has been no recovery of enrollment following the disastrous years of the dot-com bust, Y2K, and the outsourcing mania. Media reports exacerbated the situation and enrollment in similar programs declined precipitously throughout the country. Just this year Northern Michigan University was considering dropping their CIS program.

CIS on-campus enrollment decreased 19% (16) while off-campus enrollment increased 17% (8) during 2006-2010. For fall 2010, off-campus enrollment accounted for 44% of total enrollment. Last fall 2010, there were only 70 declared BS-CIS majors on-campus. In 2008, the number of on- and off-campus students was equal (71). From 2009-2010, there was a 10% (8) decline in on-campus enrollment.


#### Summary

The point of all these statistics is to call attention to the fact that the CIS program is not growing either on- or off-campus. Total enrollment has declined with no apparent end in sight. Off-campus enrollment accounts for almost half of program enrollment but does not receive an equal amount of support. At this time, only one adjunct is used to deliver an off-campus course in Traverse City.

The program faculty should consider alternatives to enhance enrollment through recruiting activities, retention strategies, curriculum revision, better advising, and promotional strategies. This is a very good program which turns out graduates that employers want to hire. With some thoughtful strategic planning, it could regain enrollment and stature. Besides the excellent technical foundation in the major, a major value of the CIS degree is the business foundation provided by the COB core.

As always, I will support the faculty in any way possible.

Respectfully,



Jim