

PROGRAM ASSESSMENT

Management Information Systems Degree Program
Burton Building
William Woods University
Fulton, MO 65251

Submitted
By
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PROFILE

Number of majors: 29

Number of Minors 21

Concentrations (Approximately 16)

Service to other majors (See below)

Number of faculty: 2 full-time 0 part-time

The MIS department has grown tremendously in the last 4 years. The department continues to service a large number of majors, minors and concentration. In addition, many departments on campus now require MIS courses to complete their requirements.. This increase is partly due to the department trying to educate students about what MIS entails. The department continues to grow at a steady pace and the job outlook is excellent (See **Job Outlook** information below) for majors. Thus, it is expected the major will continue to grow in the future. 100% of the graduates were placed in jobs upon graduation during the 2012 May and 2012 December semesters. As of May 2013, 90% of the current majors have found jobs in their field. Considering slow job growth around the nation, job placement of our majors has been a positive factor in keeping pace. Predicting the program needs of students is becoming a challenge as jobs change with industry, business requirements and economic conditions.

The number of majors, minors and concentrations has been on the rise as students explore options within the new Management Information Systems program. As other departments require computer courses in their degree programs, the MIS department may be required to reassess the number of faculty offering courses. At the current time only 2 full time faculty offer the computer core within the MIS program. Five other majors on campus require students to take courses in the MIS department. This allows us to service large numbers of students but caution must be taken in making sure as programs across campus grow and add computer requirements, that our department is able to handle the added strain on department resources.

Servicing other majors/programs on campus. (as of 2012)

Major/Program	Numbers being served in program	Hours required of MIS courses
Business Administration	89	3
Sports Management	23	6
Equine Management	21	6
Accounting	18	3
MIS Majors	29	48
MIS Minors	15	18
MIS Concentration	12	12

PROGRAM OBJECTIVES

Upon completion of the program, the student will:

Fundamental Concepts of Information and Computer Technology

Goal:

1. Use a personal computer with end-user software to solve problems within the organization.

Target Objectives:

1. Understand the basic hardware and software components of a personal computer system.
 2. Understand and use the basic operating system of a personal computer.
 3. Be able to utilize end-user software in the three areas of word processing, spreadsheet and data base applications.
 4. Understand the ethical usage of computers and computer software.
 5. Describe approaches for transferring data among applications including OLE, importing/exporting, conversion, and alternate methods
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Information Systems Concepts

Goal:

2. Identify managerial/organizational needs and the role of information systems in solving those needs using current professional practices and methodologies.

Target Objectives:

1. Identify different types of information systems.
 2. Understand the importance of information to the organization, and be able to differentiate between information and raw data.
 3. Identify the unique role of users, managers, and the information systems professional in the development of organizational solutions.
 4. Understand the expanding role of telecommunications technology.
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Computer Concepts

Goal:

3. Describe the function and architecture of computer hardware and software.

Target Objectives:

1. Understand the basic elements of logic design and switching theory.
 2. Understand internal machine representations of data and the mapping to logical structures.
 3. Understand internal machine representations of instructions and instruction processing.
 4. Understand the basic components of computer software, including operating systems.
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Application Development

Goal:

4. Use current professional methodologies to solve and implement organizational problems of limited complexity.

Target Objectives:

1. Understand and use structured, top-down programming design criteria to solve application problems.
 2. Implement those solutions using a current, procedural programming language.
 3. Use new application development methods involving fourth generation tools.
 4. Understand the integration of individual application systems into the overall organizational information system.
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Systems Development

Goal:

5. Use information systems methodologies to solve organizational problems.

Target Objectives:

1. Understand and apply the systems development life cycle.
 2. Understand and apply database management methodologies.
 3. Design and implement a limited multi-user system.
 4. Demonstrate project management skills.
 5. Describe system security and its implementation.
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Management of Information Systems

Goal:

6. Demonstrate a comprehension of the principles and concepts involved in the management of organizational information systems resources.

Target Objectives:

1. Describe the function of information systems management at the operational, tactical, and strategic levels.
 2. Describe the organizational impact of information systems.
 3. Describe emerging technologies and issues.
 4. Define the ethical issues surrounding the use of information systems.
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Networking

Goal:

7. Describe and apply skills in network administration.

Target Objectives

1. Explain the steps in analyzing and configuring a telecommunication system, including specific hardware and software components.
2. Explain the purpose of modems, bridges, gateways, hubs, and routers in interconnecting systems.
3. Identify hardware and software requirements and approximate costs of centralized and distributed systems.
4. Discuss and explain risks, security and privacy in alternate system configurations.

Systems Project

Goal:

8. Develop a solution to a real-life problem as a program capstone.

Target Objectives:

1. Develop a multi-user system with audit controls.
2. Apply project management techniques.
3. Develop user and system documentation.
4. Use accepted testing strategies.
5. Plan implementation and auditing.

9. Demonstrate ability to manage electronic commerce-related projects.

Target Objectives

1. Identify effective uses of eCommerce tools.
2. Identify criteria for evaluating financial and eCommerce information.
3. Evaluate the advantages and disadvantages of various technologies for particular eCommerce objectives
4. Identify ways Internet technologies may affect business in general and eCommerce.
5. Create an eBusiness Plan and eCommerce structure.
6. Understand issues related to credit cards, tax, shipping, and security.
7. Identify methods to attract customers and market an eCommerce site.
8. Evaluate the advantages and disadvantages of eCommerce solutions, including renting a service provider or building a solution.

The Remaining Courses Offered Under The MIS Degree Are Taught And Assessed By Business Faculty And Ultimately Follow Their Assessment Procedures:

- Acc240 Accounting I
- Acc412 Accounting Information Sys
- Bus206 Entrepreneurship
- Bus214 Business Ethics
- Bus332 Business Communications
- Bus351 Principles Of Management
- Ecn252 Microeconomics

Course	Obj.1	Obj.2	Obj.3	Obj.4	Obj.5	Obj.6	Obj.7	Obj.8
124	X			X	X			X
301					X		X	X
304		X			X			X
325				X				X
327		X	X	X				X
350			X	X				X
390	X				X		X	X
434				X	X	X		X
460	X			X				X

Management Information Systems

MAJOR/MINOR ASSESSMENT

“Closing the Loop”

Review of Recommended Actions and their results

June 2013

Program Objective	Method of Measurement	Criteria for and Threshold Level of Success	Results/Outcomes (Include data)	Recommendation for Action From 11-12 report	Program Changes Based on Assessment Data Closing the Loop 2012-2013	Assessment Days Data Collection	Budget / Support
1. Use a personal computer with end-user software to solve problems within the organization.	Production Rubric used to assess projects, production work and final project. SimNet Assessment IC3 National Certification Exam- Application section of assessment Student-End of year evaluation of Program.	70% of students will perform at satisfactory 7 on 10 point scale or better on departmental end of course projects. 70% of students will perform at 75% level on SimNet or better 75% of students will obtain a score of 75% or better on key application section of IC3 exam	87% of students performed at 7 point scale or better on department end of course projects. 75% of students score 75% or better on SimNet 10% of students scored below the 75% score on at least 1 of the 4 sections of the Key Applications Section of the IC3 exam Average score overall: 83.6 Weak Areas: Operating Systems	Current system is strong and continues to yield results expected. Students performing good on SimNet assessment. Continue to try to implement Operating Systems into the program since it is the low mark on the national IC3 assessment. Write the national certification exam costs into the department budget The IC3 lab be updated to accommodate more than 1 testing station. Students continue to indicate on year end survey that many jobs they were seeking required a level of programming-	None None Department implemented more operating system exercises to increase IC3 scores from previous year. Instead of writing the IC3 national exam into the budget, we are assessing the fee to the students (since they are the beneficiaries of the certification). The update was completed and allows for 3 testers. Although we incorporated 3 mini-units of programming languages, students still express a need for more on the programming skills when tasked with interviews (although normally MIS degrees do not include programming languages)	Programming and operating systems are the 2 low points on the IC3 exam. Incorporating more operating systems units and programming would help.	Because a small department is limited on resources, it is suggested we obtain training modules for the various weak areas. Obtain training modules (i.e. LearningTree) which will teach/train and assess student learning in programming areas. Consider working in a “PRE” IC3 exam for incoming majors in order to measure true growth.
2. Identify managerial/organizational needs and the role of information systems in solving those needs using current professional practices and methodologies.	Rubric Assessment of final project Employer survey of class project	80% of students score 8 out of 10 on rubric assessment of project. Employer Survey: 80% of the employers will indicate that the student is good or very good in their ability to manage information technology in the workplace.	83 % of students scored 8 or above on rubric assessment. 100 % of employers indicated students were at good or very good in ability to manage information technology in workplace.	None	Feel client-student relationship is high. However, we did have a few challenges with clients and have implemented new procedures into the class to address these challenges so they do not occur again.	Visiting clients onsite would help students understand the various projects we face	Travel budget for client visits
3. Describe the function and architecture of computer hardware and software.	IC3 National Certification exam – Section: Computing Fundamentals – Hardware Section	70% of students will perform at 75% (passing) or better on IC3 exam.	90% of students scored above 75% mark – 10% scored below the 75% mark (which is failing in terms of acquiring a certificate for the IC3 National Certification exam	None	This was the first year to have a ‘fail’ rate. However, we note the students who failed had the opportunity to retake the exam (free) but chose not to. We feel this would have helped their chances of a ‘pass’ rate.		
4. Use current information systems methodologies to solve and implement organizational problems	Rubric Assessment of final project	70% of students will perform score of 7 on 10 point rubric scale for project assignment.	85 % of those completing final projects scores 8 or better on 10 point scale.	Incorporated mid-term evaluation by employer in order to best maximize student performance.	The midterm evaluation was implemented and allowed students to redirect their focus on areas marked “below		

of limited complexity.	Employer monthly evaluation of students on internship	Employer Survey: 80% of the employers will indicate that the students are good or very good in their ability solve organizational problems.	100% of employers surveyed felt interns were able to solve organizational problems in a timely manner		average” – and raised the overall final evaluation scores.		
5. Apply programming theory to solving business problems	IC3 Key Applications – Program Functions assessment score	70% of students will perform score 75% or higher on Program Functions section of IC3	OF those taking IC3 – 10% scored below 75% mark – with the average score higher than last year	Although we recognize programming is our weak area, we were able to provide additional mini units this year in the programming area. Implement .Net Programming into Advanced Web apps class and also encourage independent advanced projects using different programming tools	As suggested, we implemented a programming unit into the Advanced Website Development Course (INet + , Java, XHTML). We need to identify those who want to focus their careers in this area and direct Advanced Projects and Internships into their career paths.	Need additional training in these areas. MIS Advisory board suggested business partnerships Implement training modules. Having 1 instructor teach several languages in not effective	Obtain training modules which help teach, train and assess students in various programming modules.
Develop a solution to a real-life problem as a program capstone.	Capstone Project Three-Rubric assessment: 1) Peer Group Eval 2) Peer Portfolio Assessment Rubric 3) Instructor Rubric Employer survey of client-related capstone project SWAT Employer Surveys.	80% of students score 3/4 Peer Group score 8/10 Peer Rubric score 9/10Instructor Rubric Score Team will score at least 8 out of 10 on project rubric	Peer Group - 190 % scored 4 or above 80% scored 9 or above 90% scored 9 or above on Instructor Rubric Team scored 9/10 on project rubric by employer.	Continue to implement real-world projects such as: 1. Capstone project with real client 2. SWAT – student run business with clients. 3. Advanced Projects monitored by professor.	Due to our previous recommendations, “solutions to real-life problems” are our strength. Talking with employers who hire our students, they continue to applaud our efforts in this area. SWAT – showing tremendous growth. 13 students	MIS Advisory board suggested business partnerships Students continue to note on surveys the need for real-world work outside the classroom. Implementing more client contacts would greatly improve this area.	Include budget for instructors to travel to various sites for client partnerships Need to implement a paid faculty position for SWAT
7. Demonstrate a comprehension of the principles and concepts involved in the management of organizational information systems resources.	IC3 Standard Living Online – Section Analysis score	80% of students will perform at 75% or better on IC3 Section Analysis Section.	85% of students performed at this level or better in the “Online Section” of the Analysis part of the IC3.	None	None		
8. Describe and apply skills in network administration.	IC3 – Living Online – Network section score	80% of students will perform at 70% or better on IC3 networking section	79% of student scored 70% or better.	Need to incorporate more book learning in order to fill gaps the project does not address.	Continue to find exercises to address this area.	Implement LearningTree – a module based training / assessment tool	Purchase LearningTree – a module based training / assessment tool
9. Demonstrate ability to manage electronic commerce-related projects.	Project Rubric of final e-commerce project Client rubric of student developed e-commerce website.	80% of students will 7 on 10 point scale. Employer Survey: 80% of the employers will give a score of 7 or better on 10 point scale (average score)	80% of students scored 7 or above on 10 point scale. No employer survey given this year since clients were not used in the class projects..	None	None	Continue to implement Wordpress	Obtain an additional license to increase domain support

Management Information Systems **ASSESSMENT Day** **Analysis of Data**

Internet and Computing Core National Certification Exam

The MIS department has analyzed the data from the IC3 exam and found the following:

90% of the MIS Seniors passed all 3 sections of the IC3 and are nationally certified.

The two weakest sections of the exam were

- Living Online
- Computing Fundamentals

Strongest area

- Key Applications

With those areas noted as weaker areas, these skills sets were noted:

Computing Fundamentals –

- Identify how to change system settings and install and remove software
- Identify what an operating system is, how it works and how one is maintained
- Identify Network fundamentals, and network computing benefits and risks

Living Online

- Identify different types of online communication and how they work
- Identify the ethical uses and the risks of using computers
- Identify how software is developed, and how software and hardware work together.

Although Computer Applications was the strongest area, these 2 subsets were the weakest:

- Performing Mail Merge - Word
- Be able to perform document review and collaboration – Word
- Create and manage Queries – Access

Advisory Board Recommendations

Continue to require internships – consider a 2nd experience/internship in order to broaden student knowledge

Consider adding some programming (even though most MIS programs do not)

Consider job shadowing in order to give students a feel for the market options

Consider partnering more with businesses for real-world projects

Consider budgeting for online tools that would enhance a small program for more options

Program Changes Based on Assessment

12-13 Results of recommendation

This was the first year we implemented a 7 panel advisory board (total of 13 members on the board) They were instrumental in helping us mold and revise our current curriculum based on market trends.

We have incorporated a more formal process for review before the IC3 exam. This allows the students the opportunity to focus on areas that have not been covered recently.

The new updated IC3 National Certification lab was expanded to 3 stations and new IC3 software.

SWAT (Student Website Advancement Team) incorporated the new Usability Testing and Human Factors lab and ran 4 separate usability tests for clients. This has been a huge benefit to employment opportunities since Usability is a growing area in the job market. In addition, SWAT has tripled in size over the last 3 years – and opened up to all majors on campus (not just MIS majors). It has experienced some challenges with such growth which are now being addressed.

Midterm evaluations by clients has helped us address issues mid-steam, thus helping to raise our overall satisfaction by the end of projects.

We wrote the certification costs into the student's lab fee. Since the student is the ultimate benefactor of the certification, we felt this was fair. However, we still need to look at implementing a pre IC3 exam in order to truly measure the student's growth.

Program Changes Based on Assessment

12-13 Results of recommendation

The department has moved away from utilizing exam grades and course assignments as a sole measure of assessment. Currently, the department has implemented rubric assessment and is moving toward having all rubric assessments and artifacts on a comprehensive portal by end of 2014.

In addition, 80% of the major coursework now requires a final project which is assessed using the rubric method. 40% of those courses incorporate an outside client for work produced. Client evaluations are now incorporated into the assessment procedures for those classes.

The continuation of utilizing the IC3 (Internet and Computing Core) national certification exam as a final assessment of student learning continues to help show the department where weaknesses and strengths exist has added tremendous benefit to the program. In addition, many students went above and beyond to obtain a second certification. Last year the cost of the certification was written into the course as a lab fee. Ideally, this exam should be given to incoming majors and then again prior to graduation. However, the cost prohibits the process at this time.

SimNet – another nationally normed assessment tool – has also been incorporated into the program to assess application knowledge and as a pre/post assessment measurement tool.

Program Changes Based on Assessment Results

Write the IC3 National Certification Exam costs into department budget (since it will be discontinued under the Assessment division. **(Completed)**)

Complete the upgrade of the Certification lab to allow more than 1 tester at a time. Upgrade hardware (currently old hardware that runs slow) (**completed – 3 stations now available**)

Incorporate .Net Programming into the Advanced Website Class in order to strengthen the Programming portion of the program. (**Completed – 3 week mini unit**)

Encourage Advanced Projects containing some level of programming or networking – since these were areas of weakness. (**Completed**)

Consider incorporating more Service Learning and assessment into other classes. (**Need to add a component to each class**)

Continue with projects such as SWAT which help students transfer theory into practice (**Completed SWAT continues to grow in membership and client-base--New Usability testing lab now in place and tied to client-base of 3-4 projects/year.**)

Management Information Systems
Report for Enrollment Services
May 2013

I. Department Strengths

One faculty member is a full tenured Ph.D. in the field of Information Technology. She possess two additional computer certifications. She has won the Distinguished Professor award, Governor's award and TA Abbott award. The other full time faculty was a former Information Technology business owner and brings a variety of skills to the department from the outside world. Both have done computer consulting work which brings a real-world perspective to the classroom. Both work extensively with the Graduate and Adult Studies program teaching, mentoring, and assessing that program.

Last year, the department received a grant to implement a new student work area.

Required Internships (of 120 hours) have helped students land jobs. Most employers note this was a major factor in hiring the student.

SWAT (Student Website Advancement Team) – This select group continues to add value to the department by supplying students with real world experience in a student-managed Website business. SWAT has a newly created Usability Testing lab. The SWAT organization is a client-based student run business.

This year the department expanded its certification lab by to help manage the IC3 certification exam schedule by students. Although it is nothing fancy, it does add promise to utilizing this type of assessment in the future.

Job Growth for MIS managers is excellent (See Job Outlook in this report page).

The department is able to service many other majors on campus that require computer courses.

3 classes now incorporate a strong Service Learning component into the class.

II. Competitive Advantages As always, the small class size is a huge advantage especially when dealing with individual attention to the student, projects and hands-on assignments. Our department works extensively on student projects as opposed to final exams that require comprehension of theory and facts. Students in the website development and e-commerce classes are required to select business clients and design, develop and upload to the Internet real websites. The networking class has a small lab that allows students hands-on experiences with networking in a real-lab situation. All students are now required to do a 120 hour internship related to the field of study (many students elect to do a longer internship). A student-managed business – SWAT (Student Website Advancement Team) is operational and currently works with the University team in maintaining the University website along with taking outside clients for website development. Students are responsible for creating, managing, and revising University websites for departments on campus. This gives students the opportunity to manage a small business. In addition, students have the opportunity to be part of the student-managed coffee shop that was designed and developed by students in the Business Division. Once again, this will allow students an opportunity to apply the classroom theory to a real business management approach.

Presently, the department has instituted a new assessment procedure called SimNet. This is a nationally-normed application assessment. In addition, students are required at the end of the program to take the IC3 – Internet and Core Computing national certification exam. This tests students at a national level on their computing, Internet and core computing skills. At the present time, 85% of the graduates in the program have passed the exam.

- III. **Student Numbers** – The MIS department has experienced tremendous growth over the last 4 ½ years among majors, minors and concentrations. The MIS department services many other departments on campus– thus it is difficult to predict the number of majors that can be serviced since we service other growing departments at the same time. Our computer lab will allow 18 students at any one time, assuming direct hands-on instruction is needed with the computers. We predict approximately 35 majors could be serviced effectively while managing the other majors that feed into the MIS program as part of their requirements. Currently there are 29.

Job Outlook

Source: U.S. Bureau of Labor Statistics, Employment Projections program

Employment of computer and information systems managers is projected grow 18 percent from 2010 to 2020, about as fast as the average for all occupations.

Growth will be driven by organizations upgrading their information technology (IT) systems and switching to newer, faster, and more mobile networks. Consequently, more employees at all management levels will be needed to help in the transition.

Additional growth will likely result from the need to increase security in IT departments. More attention is being directed at cyber threats, a trend that is expected to increase over the next decade.

A number of jobs in this occupation is expected to be created in the healthcare industry, which is far behind in its use of information technology. This industry is expected to greatly increase IT use, resulting in job growth.

An increase in cloud computing may shift some IT services to computer systems design and related services firms, concentrating jobs in that industry.

A number of IT jobs are at risk of being sent to other countries with lower wages, dampening some employment growth. However, this risk may be reduced by a recent trend of firms moving jobs to lower cost regions of the United States instead of to other countries.

Job Prospects

Prospects should be favorable for this occupation. Many companies note that it is difficult to find qualified applicants for positions. Because innovation is fast paced in IT, opportunities should be best for those who have knowledge of the newest technology.

Employment projections data for computer and information systems managers, 2010-20

Occupational Title	SOC Code	Employment, 2010	Projected Employment, 2020	Change, 2010-20		Employment by Industry
				Percent	Numeric	
Computer and Information Systems Managers	11-3021	307,900	363,700	18	55,800	[XLS]

SOURCE: U.S. Bureau of Labor Statistics, Employment Projections program

