Information Systems Area
Self-Assessment:
For Years 2001 - 2006

Marist College
School of Computer Science and Mathematics

April 2, 2008

Executive Summary

The purpose of this document is to summarize the basis for, review of, and substantive improvements made to programs provided by the information systems area in the School of Computer Science and Mathematics at Marist College since 2001. This document has 10 sections. In the first section we introduce the reader to our self-assessment approach. In Section 2 we describe how the Marist Vision implements the Marist College Mission and describe the mission and objectives of our information systems faculty. In Sections 3 and 4 we share model undergraduate and graduate curricula which are subsequently used to analyze our primary undergraduate and graduate programs. In Sections 5 and 6, we report feedback obtained via our alumni and exit surveys. In Sections 7 and 8 we discuss the evolution of our undergraduate and graduate programs and their component courses, and compare our Bachelor and Master programs in Information Systems to the model curricula outlined earlier. We also review special programs at these levels, such as those related to our Institute for Data Center Professionals, our 5-year BS/MSIS, and the Master of Science in Technology Management. In Sections 9 we discuss experiences our students have had via internships and class projects as well as our students' campus learning environment. Finally, in Section 10 we lay out our future plans.

The major information systems (IS) curricular changes that have occurred since 2001 include the transformation of a Bachelor of Science in Information Systems program into a Bachelor of Science in Information Technology and Systems program; this program supports students developing strong information technology and systems skills in their first two years, followed by one of two concentrations, information technology (networking, systems administration, etc.) and information systems (software engineering, project management, information systems policy, etc.). We also have developed and begun offering two new programs; one leads to a Certified Data Center Professional (CDCP) designation while the other leads to a Master of Science in Technology Management degree.

The CDCP designation is earned by students who complete 10 undergraduate courses in the upper-level information technology and systems area as well as work in liberal arts, science and business, for a total of 53 credits. This program is administered through a new NSF-supported organization: The Institute for Data Center Professionals. The Master of Science in Technology Management is targeted to prospective, new or developing technology managers who have at least five years experience; it is awarded when students successfully complete 30 credits in specified management and information systems courses. While we have implemented three new programs, we have other changes in the works. These include updating our minors, certificates, and our 5-year BS/MSIS program. We also plan to review our current MSIS program using the recently released MSIS 2006 model curriculum.

We have not only started new programs and are considering how to update other existing programs, but we have also hired three new tenure-track assistant professors from the University at Albany, Rensselaer Polytechnic Institute and Syracuse University over the last 4 years. Their research areas include study of Bayesian networks, collaborative computing, data mining, decision support, computational ethics, software agents, virtual teams and emergent leadership. This research complements research about information quality that has been occurring at Marist College since the early 1990s.

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Section 1: Introduction

The purpose of this document is to summarize the basis for, review of, and substantive improvements made to programs provided by the Information Systems discipline in the School of Computer Science and Mathematics at Marist College since 2001. Please refer to Figure 1 for a graphical representation of the approach. Based upon the Marist College Mission, independent standards, and information from our alumni and exiting students, the IS faculty provide responses to new needs, while at the same time offering consistency. Marist College's Mission indicates that as faculty, we should "help students develop the intellect and character required for enlightened, ethical, and productive lives in the global community of the 21st century." The independent standards that have been used are the IS 2002 Model Curriculum and Guidelines for Undergraduate Degree Programs in Information Systems developed jointly by the Association for Computing Machinery (ACM), Association for Information Systems (AIS), and the Association of Information Technology Professionals (AITP) as well as the MSIS 2000 Model Graduate Curriculum developed jointly by the ACM and the AIS. Finally, we continually assess our programs and course offerings by considering feedback obtained by alumni and exiting students via surveys.

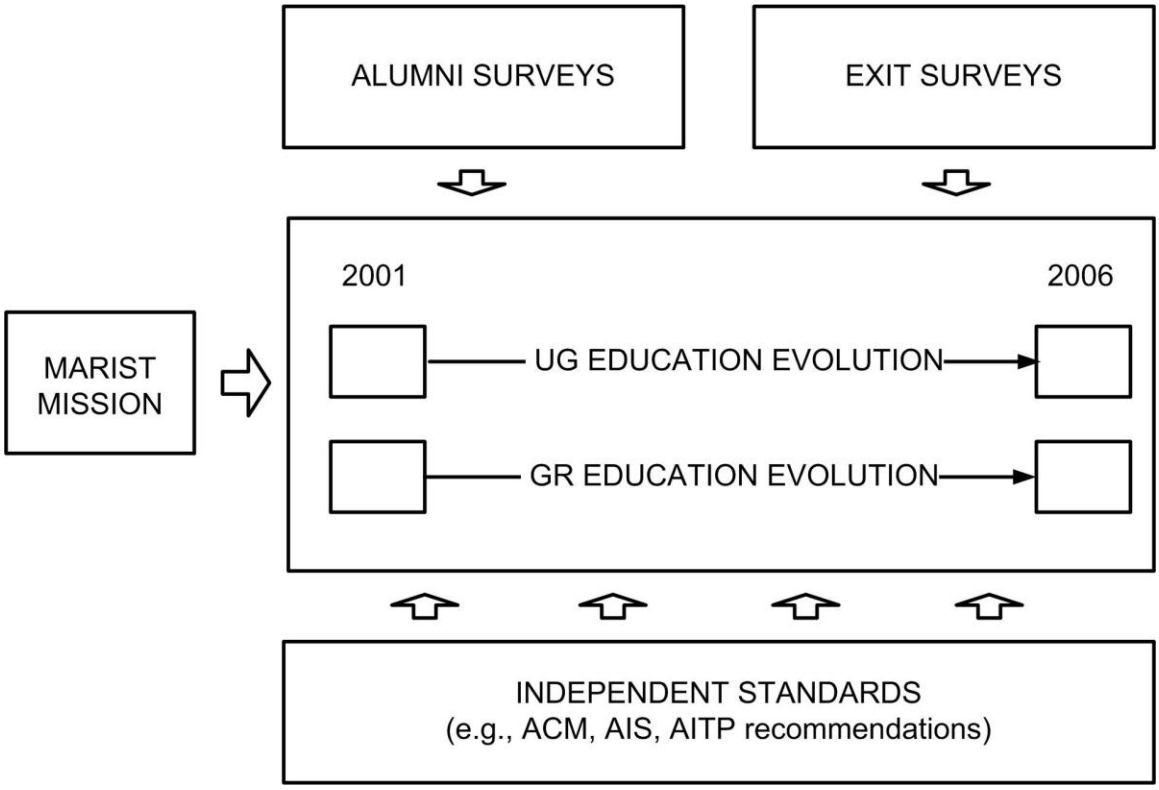

Figure 1: Approach Toward Self-assessment

Section 2: Marist College Mission and Information Systems Faculty Mission and Objectives

Marist College's Mission Statement indicates that as faculty, we should "help students develop the intellect and character required for enlightened, ethical, and productive lives in the global community of the 21st century." Marist's Vision Statement indicates "the College fulfills its mission by pursuing three ideals: excellence in education, the importance of community, and the principle of service" and "Marist seeks to distinguish itself by the manner in which it uses information technology to support teaching, learning, and scholarship at both the undergraduate and graduate levels." [1]

The mission of the information systems faculty is to prepare students for lifelong careers in the study, design, development, and implementation of information systems [while performing outstanding research and service to school, college, and discipline]. The students will obtain knowledge, skills, and experiences in both information systems and business administration. The program focuses on applying information technology to improve the performance of people in organizations. This education prepares students to identify, analyze, and solve business problems (and capture opportunities) using the systems approach. This approach includes defining the problem (understanding the opportunity), gathering data to describe the problem/opportunity, identifying and generating, evaluating, and choosing alternatives, and implementing a solution with proper follow-up actions. This is done using case studies as well as projects sponsored by real clients. The program places strong emphasis on both technology and the social aspect of systems. Students participate in teams to support consideration of interdependence and to develop interpersonal skills. This program is especially important for persons planning on becoming organizational change agents, innovators, and leaders.

Objectives of the information systems faculty at Marist College are to develop graduates with a balance of technical, organizational, and business skills to pursue information systems and technology careers or advanced educational opportunities. The graduate should be able to solve computing and organizational problems using a systems approach that considers the firm or other type of organization as a system. The graduate should be disciplined in their examination of facts across levels of analysis (e.g., person, team, department, larger unit, etc.). The graduate should be an effective oral and written communicator with multiple stakeholder audiences, such as programmers, managers, end users, etc. In addition to having basic software engineering skills, the graduate should have also a firm understanding of project management.

[1] Marist College Strategic Plan (2004-2009) Executive Summary, p. 2.

Section 3: Independent Standard for Undergraduate IS Education

The independent standard for our undergraduate Information Systems program is the IS 2002 Model Curriculum and Guidelines for Undergraduate Degree Programs in Information Systems developed jointly by the ACM, AIS, and AITP. The 2002 model includes updates to the 1997 model curriculum, which as been accepted as an accreditation curriculum reference model which captures interests of regional and national employment communities as well as the experience and expertise of the faculty that developed the IS 2002 by considering the changes since the IS '97 document. These changes included the evolution of the Internet, the increasing level of computing literacy of entering freshmen, and the increasing interest in accreditation of information systems programs. Finally, the IS 2002 builds upon a long history of curriculum standardization by the ACM, the Data Processing Management Association (which became the AITP), and AIS, that began in 1973.

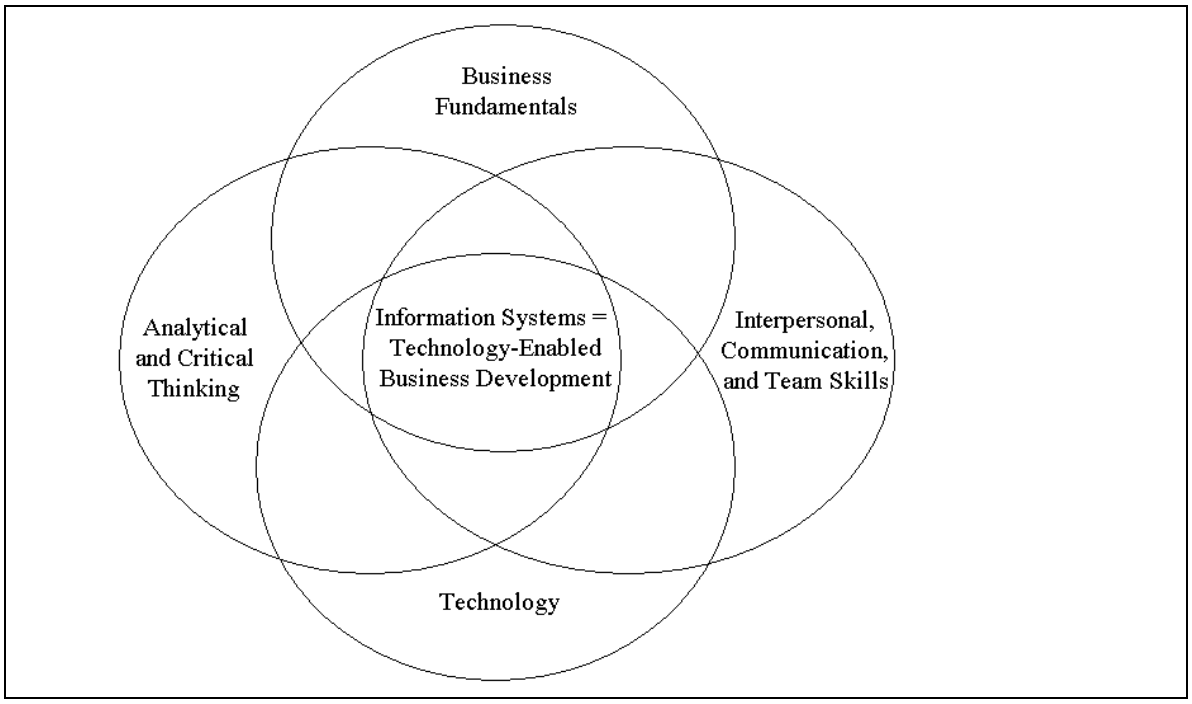

Figure 2: High-Level Categorization of IS Graduate Exit Characteristics
(from IS 2002 Model Curriculum and Guidelines for Undergraduate Degree Programs in Information Systems, p. 13.)

The principles[2] of the group that developed the IS 2002 document were:

1. The model curriculum should represent a consensus from the IS community.
2. The model curriculum should be designed to help IS faculty produce competent and confident entry level graduates well suited to work-place responsibilities.
3. The model curriculum should guide but not prescribe. Using the model curriculum guidelines, faculty can design their own courses.
4. The model curriculum should be based on sound educational methodologies and make appropriate recommendations for consideration by IS faculty.
5. The model curriculum should be flexible and adaptable to most IS programs.

[2] IS 2002 Model Curriculum and Guidelines for Undergraduate Degree Programs in Information Systems, Association for Information Systems, 2002, p. 5.

The authors of the model suggest that an undergraduate program in information systems should help students develop a broad business and real world perspective, strong analytical and critical thinking skills, strong ethical principles and good interpersonal communication and team skills, and an ability to design information technology solutions that enhance organizational performance. Figure 2 shows a diagram with the intersecting high-level abilities that define an information systems professional. Figure 3 indicates specific abilities of undergraduate IS program graduates, categorized by larger categories of abilities. In Section 7 of this document, we will compare our 2001 and 2006 curricula to the model curriculum. The next section of this document describes the independent standard we used when assessing our Masters of Science in Information Systems program.

Analytical and Critical Thinking		
Organizational Problem Solving (OPS) Problem solving models, techniques, and approaches. Personal decision making. Critical thinking. Methods to collect, summarize, and interpret data. Statistical and mathematical methods.	Ethics and Professionalism (EP) Codes of conduct. Ethical theory. Leadership. Legal and regulatory standards. Professionalism – self-directed, leadership, time management. Professionalims – commitment to and completion of work.	Creativity (CR) Creativity concepts. Creativity techniques. The systems approach.

Business Fundamentals		
Business Models (BM) Contemporary and emerging business models. Organizational theory, structure, and functions. System concepts and theories.	Functional Business Areas (FBA) Accounting Finance Marketing Human Resources Logistics and manufacturing	Evaluation of Business Performance (EBP) Benchmarking. Value chain and value network analysis. Quality, effectiveness, and efficiency. Valuation of organizations. Evaluation of investment performance.

Interpersonal, Communication, and Team Skills		
Interpersonal (I) Listening Encouraging Motivating Operating in a global, culturally diverse environment.	Team Work and Leadership (TWL) Building a team. Trusting and empowering. Encouraging. Developing and communicating a vision/mission. Setting and tracking team goals. Negotiating and facilitating. Team decision making. Operating in a virtual team. Being an effective leader.	Communication (CO) Listening, observing, interviewing, and documenting. Abstraction and precise writing. Developing multimedia content. Writing memos, reports, and documentation. Giving effective presentations.

Technology

Application Development (AD)	Internet Systems Architecture and Development (ISAD)	Database Design and Administration (DDA)	Systems Infrastructure and Integration (SII)
Programming principles, Objects, algorithms, modules, testing, appl. development, requirements, specifications, development, algorithmic design, data, object, and file structures Client-server software dev.	Web page development Web architecture design and development Design and development of multi-tiered architectures.	Modeling and design Construction, schema tools, DB systems Triggers, stored procedures, design and development of audit controls, Administration: security, safety, backup, repairs, and replicating	Computer systems hardware, Networking and telecommunications, LAN/WAN design and management, Systems software, operating system mgmt, Systems configuration, operation, and administration.

Information Systems = Technology-enabled Business Development

Systems Analysis and Design, Business Process Design, Systems Implementation, IS Project Mgmt (IS)

Strategic utilization of information technology and systems. IS planning IT and organizational systems.	Systems analysis Logical and physical design Design execution Testing	Deployment Maintenance Use of IT Customer Service

Figure 3: Detailed Exit Characteristics of Information Systems Graduates
(from IS 2002 Model Curriculum and Guidelines for Undergraduate Degree Programs in Information Systems, p. 14.)

Section 4: Independent Standard for Graduate IS Education

The independent standards used to assess our graduate Information Systems program are the MSIS 2000 Model Curricula and Guidelines for Graduate Degree Programs in Information Systems developed jointly by the ACM and AIS. This model curriculum is "designed to serve as a set of standards upon which individual schools can base their curriculum."[3] Its objective is to ensure a common body of knowledge is transferred while a student is within masters program focused on study of information systems.

The principles and philosophy of the group that developed the document were:

- "The MSIS is a professional degree that integrates the information culture and the organizational culture.
- The degree adds value to students studying beyond the bachelor degree.
- The degree includes a standard set of core courses in IS Management and Technology.
- The curriculum's flexibility accommodates students with differing backgrounds, skills, and objectives.
- The program focuses on current and emerging concepts through "career tracks.
- Oral, written, and graphic presentation skills; promoting ideas and negotiating; people skills; business skills; customer orientation; real-world focus; and ethics and professionalism are integrated throughout the program.
- The program architecture is flexible and compatible with institutional requirements for an MS degree.
- A practicum is recommended as an integrating mechanism to provide real-world experience for the student.
- The program contains an integrating capstone requirement."[4]

[3] MSIS 2000 Model Curriculum and Guidelines for Graduate Degree Programs in Information Systems. *Communications of the AIS*, 3(1), p. 2, 2000. Available online at www.acm.org in the ACM Digital Library. Accessed April 13th, 2007.
[4] Ibid. 6-7.

Figure 4 shows a diagram with overlapping skills, knowledge, and values that define an information systems professional. Figure 5 provides the suggested MSIS 2000 curriculum. Section 8 of this document, we will compare our current curriculum to the 2000 model curriculum. The next section describes results we received from surveys completed by MSIS Alumni.

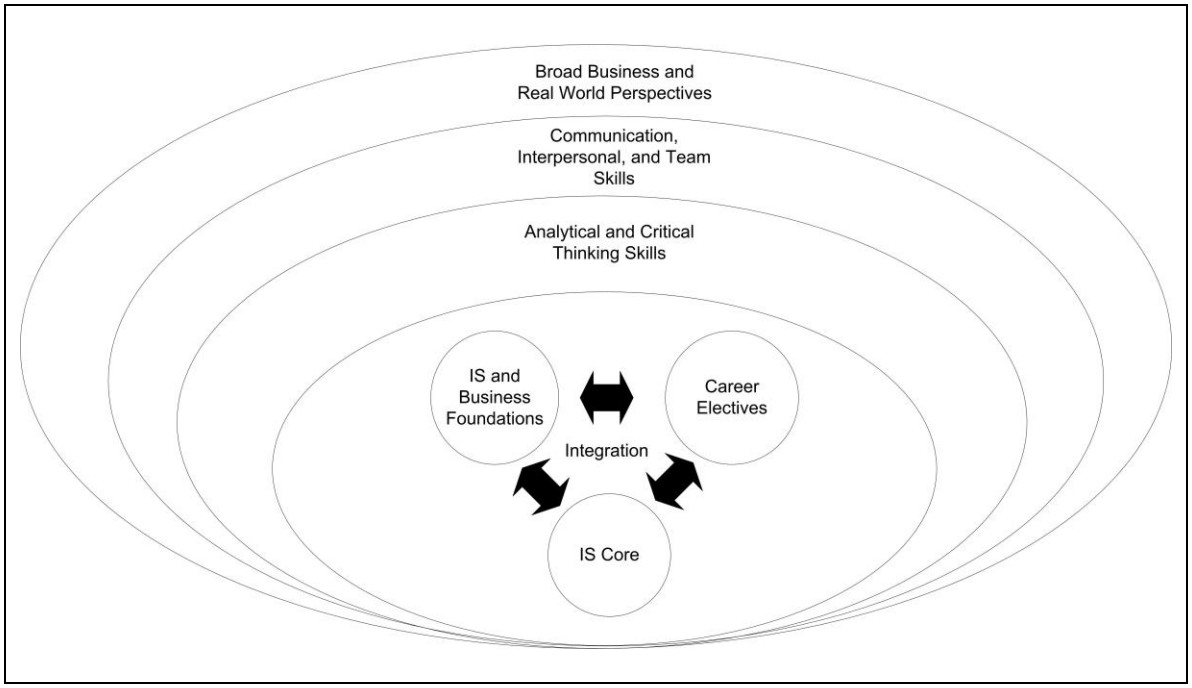

Figure 4: Skills, Knowledge, and Values of MSIS Graduates
(from: MSIS 2000 Model Curriculum and Guidelines for Graduate Degree Programs in Information Systems. *Communications of the AIS*, 3(1), p. 4, 2000. Available online at www.acm.org in the ACM Digital Library. Accessed April 13th, 2007.)

<table>
<tr><th>IS Foundations (ISF)</th><th>Business Foundations (BF)</th><th colspan="2">IS Core (ISC)</th><th>Career Electives (CE)</th></tr>
<tr><td>Fundamentals of IS</td><td>Financial Accounting</td><td>Data Management</td><td rowspan="7">Integration (I)</td><td rowspan="7">Tracks (representative)
Consulting
Decision Making
Electronic Commerce
Enterprise Resource Planning
Globalization
Human Factors
Knowledge Management
Managing the IS Function
Project Management
Systems Analysis and Design
Technology Management
Telecommunications</td></tr>
<tr><td>IT Hardware and Software</td><td>Marketing (Customer Focus)</td><td>Analysis, Modeling, and Design</td></tr>
<tr><td rowspan="3">Programming, Data, and Object Structures</td><td rowspan="3">Organizational Behavior</td><td>Data Communications and Networking</td></tr>
<tr><td>Project and Change Management</td></tr>
<tr><td>IT Policy and Strategy</td></tr>
<tr><td colspan="2">Pre-/Co-requisite</td><td>Required</td><td>Elective</td></tr>
<tr><td>9-12 units</td><td>9 units</td><td>3 units</td><td>3 units</td><td>12 units</td></tr>
</table>

Figure 5: Suggested MSIS 2000 Curriculum
(from MSIS 2000 Model Curriculum and Guidelines for Graduate Degree Programs in Information Systems. *Communications of the AIS*, 3(1), p. 14, 2000. Available online at www.acm.org in the ACM Digital Library. Accessed April 13th, 2007.)

Section 5: Results from Alumni Surveys

Results of BS in Information Systems Alumni Survey

The Alumni survey of the graduates of the BS in IS program was sent to 207 alumni and 35 responded for a response rate of 17%. The BS in IS alumni appear to be successful from the perspective of salaries, jobs, and preparation for employment.. The range of salaries reported was from $32,000 to $150,000 with a mode of $71,000 and mean of $80,000.

The BS in IS Alumni are successful from the view of achieving jobs and careers in their desired field. The alumni who reported their jobs reported jobs and careers in the fields of database, systems analysis, Project manager and manager, Programming, PC & Help Desks, some network and scattered others. Information and database are our primary content courses with Systems Analysis and Design being our primary tools courses so these results are quite positive.

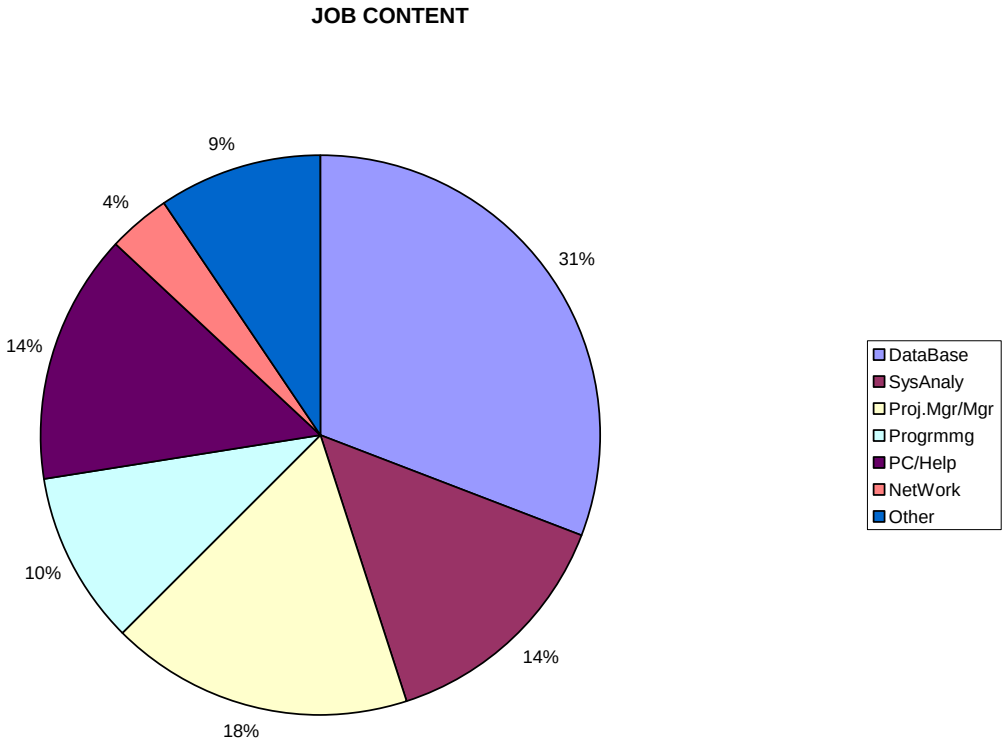

Figure 6: Job Content of BS Alumni

Well Prepared for Training on New Jobs

Eighty eight percent of the alumni who required training on their newly acquired jobs reported positive value received from the Marist IS Major. For example, 50% of the 16 alumni who obtained jobs that required training in the field reported that the IS program prepared them very well for that training, while 38% of the 16 alumni who obtained jobs that required training in the field reported that the IS program prepared them well for that training.

Well Prepared for Employment

Seventy seven percent of those who received jobs upon graduating reported positive preparation received from the Marist IS Major. For example, 46% of the 26 alumni who obtained jobs upon graduation reported that the IS program prepared them very well for that job, while 31% of the 26 alumni who obtained jobs upon graduation reported that the IS program prepared them very well for that job.

Job Titles

For those who reported job titles: 8 were managers, 5 were systems analysts and 5 were programmer analysts. A wide variety of titles followed. A total of 27 of the 28 were directly in the field of Information Systems.

Manager	8
Systems Analyst	5
Programmer Analyst	5
Systems Administrator	4
Senior Media Developer	1
Senior Project Manager	2
Network Engineer II	1
Test Leader	1
Technician Specialist	1
Customer Relations Manager	1
Total	**28**

Table 1: Job Titles of BS in Information Systems Alumni

<u>BS in IS Alumni are employed in a wide variety of corporations</u> as follows:

Six are employed at IBM and 1 each are employed at the following companies: Accenture, Admiral Insurance, Citigroup, Crickery Wood, Dutchess County Government, Employees Retirement System of Texas, GHI HMO, Harris Methodist Ft. Worth Hospital, I.B.S., IMS Health, Kennedy Information, Nielsen Media Research, NYS Office for Technology, Ordermotion, Inc, Pearson Publishing, Precision Care Software, Travelers Insurance, Twomey Latham Shea Dubin & Quartararo LLP, Watson Wyatt, Westchester Community College and Werner Media, LLC.

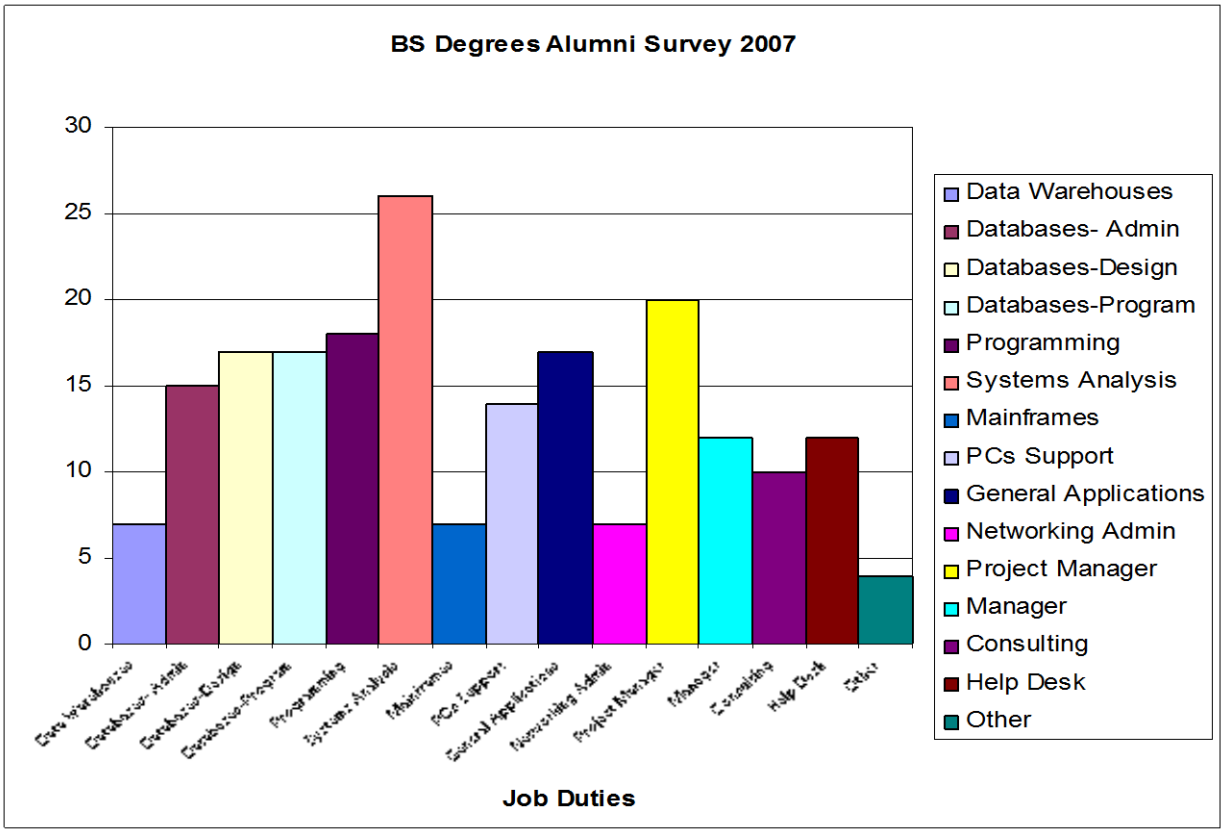

Figure 7: Job Duties Reported by BSIS Alumni Survey Respondents

Benefits of the IS Courses as Reported in the Survey

Note: The numbers in parentheses represent the number of different people who made the same or similar comment.

1. **IS Policy** is the keystone of the IS degree. One of the most enjoyable, informative and useful courses I've taken at Marist; help me learn to ask critical questions, IS Policy is an ideal course which added depth to the IS degree; actually prepared students for real world jobs and creates a professional working attitude. important for understanding some of the deeper issues of IS and how to add value for customers. **(5).**
2. The course **of Problem Solving and Programming** was the best course and I use the principle's taught daily. one of the few programming courses that I enjoyed and honed my IT skills
   (3)
3. **Systems Design** was probably the most important course as it translated well to the workforce--Programmers still don't get consistency. **(3)**
4. **Data Management** Most of the problems we have with data are Data Migration - moving data from one environment to another.
   (3)
5. **Systems Analysis**; I've recently received praise from the Director of IT thanks to the skills learned; vital to my job
   (5)
6. **Project Management** is a core competency that has high value and use. good real experience **(2)**

7. **Architecture HW /SW** useful for programming, helpful for dealing with mainframes, and indispensable for help desk work.
   (4)
8. **Data Communications** building LAN's and WAN's, saw real world **(3)**

Recommendations for the IS Courses as Reported on the Study

Note: The numbers in parentheses represent the number of different people who made the same or similar comment.

1. **Systems analysis** multiple modeling techniques in the analysis courses especially UML and VSE
   (1)
2. **Project Management** More emphasis should be placed on the diversity of work streams within projects.
   (1)
3. **IS Concepts** Increase content, more hands on
   (2)
4. **Data Management** Give more emphasis to DM and SQL, types of DM
   (5)
5. emphasize overall Architect of business systems including HW/SW/SERVERS
   (1)
6. **Data Communications**-- More Hands on
   (3)
7. **Architecture HW /SW** should require more hands on; update technology
   (3)
8. **Problem Solving and Programming** Upgrade COBOL language to more current language; more Hands On Labs,
   (2)
9. **IS Policy** should be more technical
   (1)

Summary/Conclusion

The BS degree in Information Systems has prepared our graduates to obtain well paid jobs in the field of their choice. They felt very well prepared both for the jobs and for training that took place on the jobs. The benefits of our program as stated by these alumni indicate that our primary themes taught in our backbone courses of Systems Analysis, Systems Design, Project and Policy coupled with Data Management course provide solid background for their successes. Various skills such as critical thinking, systems approach, teamwork, complement the specific skills nicely.

The primary improvement areas included more hands on and more technology. These results only confirmed the value of our intentions to include much more hands on technologically up-to-date courses in our program. Thus our own research and professional contacts have led us to move toward more IT that is web-based to be embedded in our program. In addition our feedback from graduating seniors also suggests more hands on the "web technologies." As such we are launching our new combined IT and IS major starting in the Fall 2007. This project has been in the works for 2 years and replaces our existing IT and IS majors. The new ITS major will provide the hands on web/Internet technologies while providing an IS type track for the IS majors in their junior and senior years.

Results of MS in Information Systems Alumni Survey

The Alumni Survey for the MSIS graduates was sent to 180 alumni and 31 responded. The MSIS Alumni are successful from the standpoint of salaries. The range of salaries reported was from $40,000 to $140,000 with a mode of $100,000. The MSIS Alumni are successful from the standpoint of achieving desired jobs and careers that were planned for during their endeavors to achieve a Masters degree in information systems. A variety of consulting, systems analysis and management careers were reported. 26% (or 8) of the respondents held management jobs ranging from manager, senior manager, Director of production, Executive director, and VP/General Manager. 26% (or 8) were systems analysts or project managers. The remaining 48% had jobs in the field of information systems and technology. See Table 1.

Job Titles	Count
Consultant	4
Director of Production	1
Executive Director	1
Manager / Senior Manager	5
Vice President / General Manager	1
Account Manager (sales)	1
Senior/Systems Analyst	7
Senior Project Manager	1
Senior Support Systems Representative	1
Information Tech / Team Lead / Specialist	3
Information Systems Assistant	1
Systems Administrator / Network / Server	1
Senior Data Architect	2
Total	**31**

Table 1: Job Titles for MSIS Graduates
(Source: Marist College MSIS Alumni Surveys)

The skills used on the job were key principles taught throughout our program. For example, Systems Analysis and Project Management are the two highest listed skills as shown in Figure 6 below.

No pattern of programming languages used could be detected as there many languages reported but only from 1 to 3 people using each one. The 2 part table below shows the languages that were reported with their number of alumni reporting them listed below each language. See Table 2. If anything might be "concluded" it would be that our graduates are prepared to use a diverse set of languages and that the newer languages seem to be about double in use based on these small numbers.

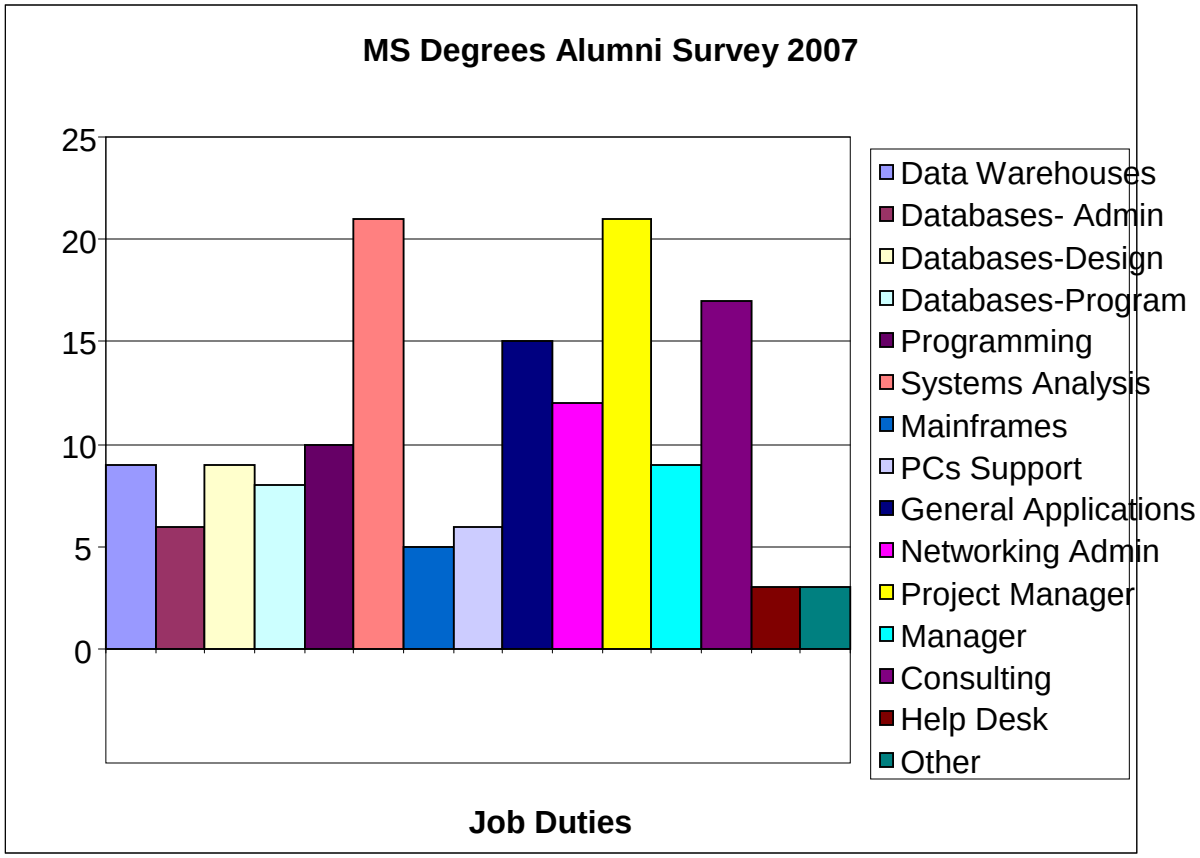

Figure 6: Job Skills Used by MSIS Graduates
(Source: MSIS Alumni Surveys)

There is no surprise that almost half of our master degreed alumni are employed by IBM. But is should also be noted that about half have leading jobs throughout the community in a wide variety of corporations. Fourteen are employed at IBM and 17 are employed at various companies such as Bell Dutchess, Inc., Central Hudson Gas & Electric, Deloitte & Touché Consulting, Dominical College, Eagle Creek Software Service, H.O. Penn Machinery Co., Inc., J. P. Morgan Chase, K & L Gates, OSI Software, Pearson Education Publishing, Wachovia, Westchester Community College, and Morgan Stanley among others.

C	C++	Cobol	HTML	IMS	Java	Java Script	JCL	Perl	PL1	Rexx	SQL	VB	VBA	Win Batch	XML
1	3	1	2	1	3	1	1	1	1	1	2	2	1	1	2

Table 2: Programming languages used by MSIS graduates
(Source: MSIS 2007 Surveys)

Section 6: Results from Exit Surveys

Undergraduate Program

One of the ways in which we continually evaluate the outcomes of the undergraduate IS program is to conduct exit surveys that are administered to graduating students in March of the Spring semester. Over the course of time, we have used the senior surveys to make changes within our courses, changed the focus of upper level elective courses, and added/dropped courses from the curriculum.

The senior exit surveys point toward a need for more hands on classes, more electives, more Internet classes while continuing a tradition of blending business classes, real life projects, professors with real world experience, and critical/systems thinking.

LIKES	2002	2004	2005	2006
MIX of IS, CS, BUS.	7/19 or 37%	9/14 or 64%	4/9 or 44%	7/12 or 58%
Knowledge Professors	6/19 or 32%	5/14 or 36%	5/9 or 56%	6/12 or 50%
Avail/Helpful Professors	2/7 or 29%	5/14 or 36%	1/9 or 11%	5/12 or 42%
Real Projects	3/19 or 16%	3/14 or 21%	3/9 or 33%	6/12 or 50%
Critical Thinking				4/12 or 33%

Table 3: SUMMARY of SENIOR EXIT SURVEYS -- LIKES

NEED IMPROVEMENT	2002	2004	2005	2006
Industry Guest Speakers	3/19 or 16%	3/14 or 21%		
More Real World Project	3/19 or 16%	5/14 or 36%		
Less Programming	3/19 or 16%			
More IT	1/19 or 5%	6/14 or 43%	3/9 or 33%	3/12 or 25%
More Hands On	1/19 or 5%	5/14 or 36%		1/12 or 8%
More Electives			4/9 or 44%	1/12 or 8%
More VB, Less Java			3/9 or 33%	
Expand DC Lab-3cr				3/12 or 25%
More Team Group Work				3/12 or 25%

Table 4: SUMMARY of SENIOR EXIT SURVEYS – NEED IMPROVEMENT

Other ideas shared in the Senior Exit Surveys were:

- Separate experienced and inexperienced with Java for the CS1 class.
- Re-evaluate prerequisites.
- Make internships required and make it easier to get internships.
- Update Design and Arch HW/SW courses.
- Combine SA and SD
- Combine IT and IS

In 2002, only 4 of 19 reported obtaining jobs ***while still in school***. In 2006, 5 of 12 reported obtaining jobs. Skills that students indicated helped the most were critical thinking, problem solving, systems thinking, teamwork/communication, and requirements analysis.

Graduate Program

In order to evaluate the outcomes of the graduate IS program, starting in 2006, we have also begun to ask students to complete a survey in March of the student's final spring semester. Over the course of time, we will use these surveys to make changes within our courses, changed the focus of upper level elective courses, and added/dropped courses from the curriculum.

LIKES	2006
Experience of students shared / Professor Interaction	5
Group Discussions/Activities	4
Cross-discipline IS and Business	4
Good amount of knowledge conveyed	4
Quality of faculty	4
I was able to apply items learned at work	3
Studying current developments in IT and IS	3

Table 5: SUMMARY of 2006 MS Programs EXIT SURVEYS--LIKES

NEED IMPROVEMENT	2006
More Executive simulations like done in IS Policy	3
More technical classes needed	3
More hands-on in technology	3
More hands-on in business	2
Communicate availability of courses	2
Better availability/flexibility of classes	2
More Daytime classes	2

Table 6: SUMMARY of 2006 MS Programs EXIT SURVEYS—NEED IMPROVEMENT

Most graduate students already have jobs, e.g., 9 out of 11 for this class already had jobs. The 2 who did not have jobs were international students. Those with jobs were still able to say several things that showed how the MSIS program has helped them. The areas cited where the program helped the students on their jobs are listed in Table 7.

AREAS	2006
Requirements and alternatives in Systems Analysis	2
Provided technical background to communicate within my org and users	2
Business knowledge gained important for IS/IT professionals	2
More well Rounded	2
Critical Questions/Systems Thinking Skills	2
Leadership Skills improved	1
Presentation skills	1
Internships	1
Design importance	1
Can apply what I learned	1
Gave me confidence to take on more responsibilities	1

Table 7: Areas cited as outcomes of MSIS program in 2006 survey

Section 7: Undergraduate IS Education at Marist College

Overview of Bachelor of Science in Information Systems

The Bachelor of Science in Information Systems prepares students for lifelong careers in the study, design, development and implementation of information systems. The students receive education and experiences in business administration, information systems and the intersection of these two areas. The program focuses on applying information technology to improve the performance of people in organizations. This is done using both case studies and real clients. The program uses a systems approach, and defines a system broadly; considering systems as complex interactions among hardware and software components and the groups of people who support and rely on these systems. Students are expected to participate in team situations to enhance both their systemic thinking and their interpersonal skills. This program is especially appropriate for persons who wish to become the organizational change agents, innovators, and thought leaders of the future. The program also prepares students who wish to pursue graduate professional or research-oriented graduate degrees.

The graduate should be able to solve computing and organizational problems by considering the firm/organization as a system, examining facts in the environment carefully, and using resources productively. The graduate should be knowledgeable of technological and sociological implications of computing developments. The graduate has developed oral, written, and interpersonal communication skills in order to be able to effectively communicate with various levels of stakeholders in an information systems project (programmers, end-users, managers, and so forth). The graduate has engaged in collaborative learning experiences in multiple projects to develop and enhance teamwork skills. The graduate has a strong vision of the importance of project management, and its relationship to software engineering. The graduate has been exposed to Information Systems/Technology and Science research areas so as to spark an interest in further studies into areas that include business intelligence, data warehousing and mining, and information quality and ethics.

A Bachelor of Science in Information Systems becomes a Bachelor of Science in Information Technology and Systems

Prior to Fall 2007, Marist College has offered three computing and information-oriented undergraduate programs: information systems, information technology, and computer science. Beginning in Fall 2007, Marist College will begin offering two programs: information technology and systems, and computer science. The information technology and systems major will have two candidate concentrations, information technology, and information systems. We have created the information technology and systems major (and its two concentrations) to improve the overall curriculum and achieve a more robust, technical foundation in the first two years, thereby responding to our previous information systems students feedback that more hands-on, more IT-type classes should be offered within the information systems program, and to attract future students to the program since two common years of classes allow a student to postpone the decision about their major until they are more familiar with both the information systems and the information technology sub-disciplines. In summary, we believe this will help market our program to prospective students and help these students, once accepted into the program, gain better familiarization and more robust, technical foundation that is associated with both programs prior to selecting a concentration.

Please see Figures 7, 8, and 9 for requirements for the old BSIS, new BSITS (IS Track), and new BSITS (IT Track), respectively. The new BSITS is significantly

improved from the previous BSIS. In the new program, CMSC 120, the introduction to computer science course, now includes a “hands-on” lab where students are able to learn experientially, while professors are within the classroom. Calculus 1 (MATH 241) has replaced to Calculus with Management Applications (MATH 115) to provide a stronger mathematical maturity in our graduates. In the new program, two new courses, Web Programming 1 and 2 (ITS 210, 220) are included. In these courses students become familiar with current technologies used to create web applications. Programming and markup languages and techniques often covered in this sequence include XHTML, Dynamic HTML, JavaScript, XML, JSP, ASP, Perl/CGI, Java Beans, cookies, and Java Servlet Pages. Also in the new program the Decision Quality in Information (ITS 428) Systems and the Decision Support Systesm (ITS 452) are required, whereas before, they were offered, but not exit criteria. While some coverage has increased, or become mandatory, other coverage has been collapsed into one course.

The Systems Analysis Methods (IS 404) and the Systems Design Methods (IS 461) courses have been collapsed into one Systems Analysis and Design (ITS 430) course. This reflects common practice among colleges and universities in North America. Also, Operations Models (MATH 230) is no longer required for the major. Also, by eliminating core requirements that covered mathematics and social science, which are covered in multiple places within the ITS degree, the number of electives that could be used traditionally or as internships within companies in the community was increased from 11-14 credits to 14-17 credits.

Note: A minimum of 60 credits in Liberal Arts required.

1.0 Course Requirements in IS and CMSC	**Credits**
CMSC 120, 121	7
IS 110, 130, 236, 321, 404, 406, 407, 408, 409, 461, 492	27
IS Upper-Level Elective (Excludes Internship)	3
IS 477 Capping Course	3
Credit Requirement in IS and CMSC	
SUBTOTAL	40
2.0 Course Requirements in Related Fields	
MATH 115, 130, 230, 250	12
ECON 101, 102	6
BUS 101, 340	6
ACCT 203, 204	6
Related-Field Elective (200 level and up) in IS, IT, CMSC, MATH, BUS, ECON (Excludes IS Internship)	3
Credit Requirement in Related Fields	33
Total Credit Requirement for a Major in Information Systems	
SUBTOTAL	73
3.0 Core/Liberal Studies Requirements	
3.1 FOUNDATION COURSES	
Philosophy/Ethics	6
Writing	3-6
SUBTOTAL	9-12
3.2 DISTRIBUTION STUDIES	
Fine Arts	3
History	6
Literature	6
Mathematics (fulfilled by related field req.)	0
Natural Science	6
Philosophy/Religious Studies	3
Social Science (fulfilled by related field req.)	0
SUBTOTAL	24
Total Credit Requirement Core/Liberal Studies	
SUBTOTAL	33-36
4.0 Electives (and/or Internships)	11-14
Students interested in an internship are advised to defer free electives until after completing the sophomore year. The internship credit maximum is 12 credits.	
Total Credit Requirement for Graduation	**120**

Figure 7: OLD BSIS Requirements (for students beginning 2001- January 2007)

1.0	Course Requirements in Major Field			**Credits**
	CMSC 110	Computing Studies Seminar	1	
	CMSC 120	Computer Science I and Lab	4	
	CMSC 121	Computer Science II	3	
	ITS 130	Information Technology Systems Concepts	3	
	ITS 210	Web Programming I	3	
	ITS 220	Web Programming II	3	
	ITS 321	Architecture of Hardware and Software	3	
	ITS 406	Data Communications	3	
	ITS 408	Data Management	3	
	ITS 4xx	Systems Analysis and Design	3	
	ITS 452	Decision Support Systems	3	
	ITS 492	Information Systems Project	3	
	ITS 428	Data Quality in Information Systems	3	
	ITS 478	Capping: ITS Policy	3	
	BUS100	Intro to Business and Management	3	
	BUS 340	Marketing Mgmt	3	
	ECON101	Principles of Macroeconomics	3	
	ECON102	Principles of Microeconomics	3	
	ACCT 203	Financial Accounting	3	
	ACCT 204	Managerial Accounting	3	
	Credit Requirement in Information Systems		59	
2.0	Course Requirements in Related Fields			
	MATH 130	Introduction to Statistics	3	
	MATH 241	Calculus I	4	
	MATH 250	Discrete Mathematics	3	
	Credit Requirement in Related Fields		10	
Total Credit Requirement for a Major in Information Systems				70
3.0	Core / Liberal Studies Requirements			
3.1	Foundation			
	PHIL 101	Introduction to Philosophy	3	
	PHIL 300	Ethics	3	
	ENG 116/117	College Writing I or II	3-6	
	Credit Requirement in Core / Liberal Studies: Foundation		9-12	
3.2	Distribution			
		Natural Science	6	
		Social Science	0	*(fulfilled by major)*
		History	6	
		Literature	6	
		Mathematics	0	*(fulfilled by major)*
		Fine Arts	3	
		Philosophy / Religious Studies	3	
	Credit Requirement in Core / Liberal Studies: Distribution		24	
Total Credit Requirement for Core / Liberal Studies				33-36
3.0	General electives and/or Internships			14 - 17
Total Credit Requirement for Graduation				120

Figure 8: NEW BS in Information Technology and Systems – IS Focus

1.0	Course Requirements in Major Field			**Credits**	
	CMSC 110	Computing Studies Seminar	1		
	CMSC 120	Computer Science I and Lab	4		
	CMSC 121	Computer Science II	3		
	BUS100	Intro to Business and Management	3		
	ITS 130	Information Technology Systems Concepts	3		
	ITS 210	Web Programming I	3		
	ITS 220	Web Programming II	3		
	ITS 312	Unix	3		
	ITS 321	Architecture of Hardware and Software	3		
	ITS 406	Data Communications	3		
	ITS 407	Internetworking	3		
	ITS 408	Data Management	3		
	ITS 410	Systems Administration	3		
	ITS 420	Internet Security	3		
	ITS 4xx	Systems Analysis and Design	3		
	ITS 4xx	Technology Entrepreneurship	3		
	ITS 477	Capping: ITS and Society	3		
	ITS 39x	IT Electives	9		
	Credit Requirement in Information Technology		59		
2.0	Course Requirements in Related Fields				
	MATH 130	Introduction to Statistics	3		
	MATH 241	Calculus I	4		
	MATH 250	Discrete Mathematics	3		
	Credit Requirement in Related Fields		10		
Total Credit Requirement for a Major in Information Technology					69
3.0	Core / Liberal Studies Requirements				
3.1	Foundation				
	PHIL 101	Introduction to Philosophy	3		
	PHIL 300	Ethics	3		
	ENG 116/117	College Writing I or II	3-6		
	Credit Requirement in Core / Liberal Studies: Foundation		9-12		
3.2	Distribution				
		Natural Science	6		
		Social Science	6		
		History	6		
		Literature	6		
		Mathematics	0	*(fulfilled by major)*	
		Fine Arts	3		
		Philosophy / Religious Studies	3		
	Credit Requirement in Core / Liberal Studies: Distribution		30		
Total Credit Requirement for Core / Liberal Studies					39-42
3.0	General electives and/or Internships				8-11
Total Credit Requirement for Graduation					120

Figure 9: NEW BS in Information Technology and Systems – IT Focus

Evolution of BSIS and BSITS Courses

The **Computing Studies Seminar** (ITS 110, dual-listed as CMSC 110) The format of the Computing Studies Seminar leads to a natural evolution of its content. Faculty members from three disciplines, Computer Science, Information Systems and Information Technology, are asked to give a lecture on a topic of interest to them and suitable for an audience of first-semester students. The result has been that the content of the lectures is timely and of current interest. Over the past six years topics have included the following: Decision Support Systems, XML, Parallel Processing, Artificial Neural Networks, Web Services, Network Fundamentals, Data Management, Data Quality, Distributed Computing Technologies, Computer Forensics and Game Design and Programming. A Career Panel has always been a standard part of each Seminar series. Representatives from IBM, Goldman Sachs and Morgan Stanley participate as well as other guests. This is very well received by our students and is the source of very timely and important career information for them. In 2006, I added another panel to the schedule: Special Opportunities at Marist: IBM Joint Study and the NYSTAR Program. This panel was chaired by Howard Baker of IBM, our Joint study liaison. He brought together a group of our upper level students who are working on these various projects who each described their work. This was very successful and we will have this as a staple of future Seminars. The material is current and students are particularly interested to see fellow undergraduates participating in sophisticated projects.

The **Information Technology and Systems Concepts** course (ITS 130) has changed from a primarily lecture course to one that includes a significant hands on experience in the use of Excel and Access in solving business problems and the use of PowerPoint to create a presentation. Students are encouraged to learn to communicate effectively using a graphic tool. Projects using Access to solve a database problem and the creation of an original Web site were added. Finally, the name of the course has been changed to Information and Technology Systems Overview to reflect the merger of the Information Systems and Information Technology programs. The previous text was Principles of Information Systems: A Managerial Approach, Sixth Edition by Ralph M. Stair, George W. Reynolds, and published by Course Technology, while the current text is Using MIS by David M. Kroenke and published by Prentice-Hall.

The **Problem Solving and Programming in Business** course (ITS 236) has been replaced by Web Programming 1 and 2 (ITS 210 and ITS 220). ITS 236 evolved from a programming course that focused on applying COBOL, to various versions of Visual Basic, and now is taught as an elective that used Visual Basic.Net.

The **Management Information Systems** course (ITS 300) is a service course for junior-level undergraduate students enrolled in the School of Management at Marist designed to provide them with a background in Management Information Systems. In its current form, the course combines a lecture component with a lab component designed to provide students with hand-on experience using Microsoft Excel and Access to solve business case problems. The course is currently being piloted in order to formalize learning objective and expectations, as well as to determine the appropriate instructional skill level at which the case component should be taught. In keeping with original charter for the course, the lab component will be dropped in future semesters in order to emphasize non-technical aspects of information technologies and their deployment in

organizational settings. Formative and summative evaluations conducted during the current semester will be used to further modify the course to ensure that the expectations of both the School of Management and the School of Computer Science and Mathematics are being met. Since the course is expected to be taught in multiple sections by multiple instructors in the future, an Instructional Manual will be prepared over the summer in order to ensure consistency of content across multiple sections. The previous texts used was: Laudon, J.C., & Laudon, K.C. (2007). Essentials of business information systems (7^{th} ed). Upper Saddle River, NJ: Prentice-Hall. The current texts are: Current texts: Kroenke, D. (2007). Using MIS. Upper Saddle River, NJ: Prentice-Hall. Miller, L. (2007). MIS Cases. Upper Saddle River, NJ: Prentice-Hall.

The **Architecture of Hardware and Software** course (ITS 321) has stayed the same in structure but has kept up-to-date with changing technologies.

The **Internships in Information Systems and Information Technology** (ITS 395, 396, 397, 398, 399) provide students with an opportunity to put theoretical constructs to work in a real world environment while contributing to the organization in which they are working. Students have created web sites for the companies they are working for, built and programmed servers using cutting edge technologies and provided technical support as well as database and application development. There are 63 different firms that have provided internship opportunities to Marist students in the Information Systems major.

The **Systems Analysis Methods** course (IS 404) provided an overview of the systems-development life cycle, with emphases on the earlier phases. The primary objective of this course is to introduce participants to basic concepts and techniques for analyzing business or other problems so that information systems that address those problems can be developed. Students employed graphical tools and other modeling tools, and became proficient in at least one current analysis method and will be exposed to several others, including Object Oriented Analysis and Prototyping. This course had a problem-solving approach that covered only the systems analysis part of the life cycle. During 2001 to Spring 2005, the text that was used in this course was Modern Systems Analysis and Design, (various editions), by Hoffer, George, and Valacich and published by Prentice-Hall. Beginning in Fall 2005, the course became primarily an object-oriented systems analysis course, with secondary focus on functional and data-oriented analysis techniques. The course traditionally has and continues to use the case-method to give students the opportunity to practice skills, without the complexity of dealing with a real-world client. The text used in the course since Fall 2005 has been Object-Oriented Systems Analysis and Design, (various editions), by George, Valacich, Batra, and Hoffer, and published by Prentice-Hall. This course has been discontinued and the material covered in this course will now be covered in Systems Analysis and Design (ITS 430).

The **Data Communications** course (ITS 406) was an upper level course in the IS curriculum up until this year. It has remained essentially a lecture course as the basic data communications theoretical framework to support the Internetworking lab and new courses offered in the IT major as electives to our students including Internet Security, Wireless Technologies and advanced Routing algorithms. It is now scheduled to be offered in the sophomore year so that students can ramp up to the more advanced courses noted above. Our goal has been to keep current with the newer technologies and adjust our curriculum to the many advances and opportunities in this field. The text that has

been used is Business Data Networks and Telecommunications, (various editions) by Panko and published by Prentice-Hall.

The **Internetworking** course (ITS 407) is an expansion of the previous data communications lab. The new 3 credit version of this lab includes lectures, extensive practical labs scenarios, case studies, and written exercises to provide the students with basic internetworking knowledge.

The **Data Management** (ITS 408) course has become more hands-on; students work in the LAB using the DBMS to complete a database application as their term project. As a result, the necessity of the separate Lab course was eliminated. Online courses use MySQL as DBMS of choice as well as the Harrington books: Relational Database Design: Clearly explained and SQL Clearly Explained published by Morgan Kaufmann. The focus of the course has remained the essential component of meeting the business needs and the designer/developers need to understand and implement end user requirements. The project is done as a team to give students the important skills of working in a group. In addition, this course has been moved to the sophomore year to give the student an earlier basis for more advanced courses that have been added to the curriculum. In the class room courses, the textbook was changed to Database: Design, Application Development & Administration, (various editions), written by Mannino and published by McGraw-Hill, starting in the Fall of 2003.

The **Data Management Lab** (ITS 409) has been phased out as the course has been modified over the past 5 years. Initially, the lab was required to help students utilize the required DBMS, Oracle. As the course structure changed, the students began practicing with easier-to-use DBMSs including SQL Server, and more recently, to MySQL, an open source solution. Any instruction now required to utilize the DBMS central to a course session is included in the lecture-based course.

The **Data Quality in Information Systems** course (IS 428), began to be offered in 2002, when a formal proposal to transform a special topics course on data quality to become a permanent course (eventually approved by the Computer Science Department, School, Academic Affairs Committee, Plenary Faculty) was started. The DQ in Information Systems course is now a permanent course and has been an available elective for all IS and IT majors, and will be required for ITS majors beginning the fall of 2007. In 2003 the course was not taught. In 2004, the course was taught using a rough draft version of a textbook co-authored by Dr. Craig Fisher, entitled Introduction to Information Quality. Two weeks of Statistics and Process were introduced and the coverage of Total Quality Management was enhanced. In 2005 the course was not offered. For the first time, in 2006, the course was taught online and the related effect was more emphasis on student research of several new journal articles, web sites, and their own findings. Currently, in Spring 2007, we began using the text co-authored by two Marist professors, Craig Fisher and Eitel Lauria, with Rich Wang at MIT. The text was published by the MITIQ Press in Cambridge, Massachusetts. Use of the online environment was expanded to include journal articles, assignments, and announcements. The Data Quality in Information Systems course is now required for the Information Systems track of the Information Technology and Systems major.

The **Systems Analysis and Design** course (ITS 430) will begin in the fall of 2007 and cover material previously covered in Systems Analysis Methods (IS 404) and Systems Design Methods (IS 461). The text that is planned to be used will be Object-

Oriented Systems Analysis and Design, (various editions), by George, Valacich, Batra, and Hoffer, and published by Prentice-Hall, supplemented by material that provides deeper coverage of user interface design, software architecture, and design patterns.

The **Business Intelligence** (ITS 438) course was introduced as a special topic course in the spring of 2004 with a computer science (artificial intelligence) flavor, but has evolved into a more application-oriented course, in which students do "hands on" work and analyze business cases on real world problems related to data warehousing, OLAP, data mining and business analytics. Several textbooks have been used in the past, including Data Warehousing Fundamentals: A Comprehensive Guide for IT Professionals, by Ponniah, and published by Wiley – Interscience, in 2001 and Data Mining, A Tutorial-based Primer, by Roiger and Geatz and published by Addison-Wesley in 2003. Beginning in Fall 2006, the course also became available in an online mode.

The **Decision Support Systems** course (ITS 452) is "hands-on" and very quantitative. Students use a variety of tools including Excel (with add-ins); SQL Server Analysis Services; data mining tools, expert system shells (expert choice, Exsys, Netica). Since fall of 2005 the course has also been delivered in online format. Several textbooks have been used in the past, including Decision Support and Data Warehouse Systems, by Mallach, and published by McGraw-Hill in 2000; and Decision Support Systems and Intelligent Systems, (Seventh Edition), by Turban, Aronson and Liang, published by Prentice-Hall, in 2004. The Decision Support Systems course is now required for the Information Systems track of the Information Technology and Systems major.

The **Systems Design Methods** (IS 461) course has traditionally built upon and extended the functional and data-oriented systems analysis and design techniques students began to learn in IS404 – Systems Analysis Methods. In addition to applying these concepts to design, knowledge about best practices for developing user interfaces, given human factors, has been a core component of the course. Also during its history, the course has introduced software architecture and system implementation. Beginning in 2002, instructors began to include a small component of object-orientation. Gradually, more object-orientation was included. In Spring 2006, the course became primarily object-oriented, but also spent some time discussing functional and data-oriented methodologies. Traditionally the course used the second half of the text used in the Systems Analysis Methods course (IS 404), but beginning in Spring 2006, two other texts were used, in order to provide more rigorous coverage of Systems Design. These were Object-Oriented Analysis and Design with the Unified Process, by Satzinger, Jackson, and Burd, and published by Thomson/Course Technology, in 2005, (in Spring 2006) and Software Engineering, (8^{th} edition), by Sommerville, and published by Addison-Wesley, in 2007 (in Spring 2007).

The **Information Systems Policy** course (ITS 478) is highly dependent upon student involvement in research on current topics and as such new journal articles are introduced regularly. The students must do research papers that present arguments from multiple perspectives such as ethical, economical, psychological, sociological and technical. In 2001, the topic of "interaction of organizations and technology" was expanded to provide more complete coverage of the impacts and influence a CIO may have on a corporation. For example, decisions made by or influenced by the CIO may lead an organization toward pessimistic or optimistic outcomes. The course now includes

sections of this topic presented in thirds over a three week period to use as a framework to help tie various topics together throughout the semester. Beginning in 2002, readings and discussions on e-commerce were added. Also, a unit focusing on comparing Internet and electronic voting was inserted. Coverage regarding organization learning also expanded. In 2003, the Internet/electronic voting topic was broadened to electronic government. Starting with 2004, more articles on e-Government were included, and an examination of the ethics of Government terrorist tracking databases was begun (e.g., with respect to privacy vs. security concerns). Finally, in 2005, discussions of outsourcing were expanded to give more emphasis on off-shoring and contract management, and in 2006, a new textbook was used.

In the **Information Systems Project** course (IS 492) undergraduate students develop a solution to a problem in the information systems domain, for a real-world client. In the process of solving this problem, students continue to develop their systems analysis, design and project management skills. Students determine scope, establish requirements, and define, perform, monitor, and control project tasks. Students continue to develop their interpersonal, communication, and presentation skills. Please see Appendix F for projects completed at clients. Learning techniques include working through an actual IS project, lectures, discussions, and textbook readings. Outcome measurement methods include examinations, milestones, weekly reports, final report, and final presentation. Traditionally this course has had a project management focus, but beginning in the fall of 2006, students were exposed to additional practice with software engineering techniques not taught in depth in Systems Analysis Methods or Systems Design Methods.

In the **Advanced Internship in Information Systems** (ITS 495, 496, 498, 499) students are provided with the opportunity to gain advanced experience by addressing challenges in companies.

Undergraduate IS Program Assessment

In our assessment we have compared our curriculum and coursework to the Marist Mission and Vision, to the IS 2002 model, and considered feedback from surveys completed by our alumni and exiting seniors. Marist College's Mission Statement indicates that as faculty, we should "help students develop the intellect and character required for enlightened, ethical, and productive lives in the global community of the 21st century." Marist's Vision Statement indicates "the College fulfills its mission by pursuing three ideals: excellence in education, the importance of community, and the principle of service" and "Marist seeks to distinguish itself by the manner in which it uses information technology to support teaching, learning, and scholarship at both the undergraduate and graduate levels." [5]

Marist undergraduate information technology and systems students develop intellect and character by participating in ethics, other philosophy, college writing, natural science, history, literature, and fine arts courses required in the liberal studies core of the program. These students further develop these characteristics by completing mathematics courses which include statistics, calculus, and discrete mathematics. These courses primarily develop an enlightened and ethical individual. Information technology and systems students then complete specialized course work in their specialization (information systems or information technology), which complemented by internships, allows them to become productive when they first enter the work force. By working through the core liberal studies, mathematics, and information technology and systems courses, including internships and projects, our students leave Marist College with intellect, character, and skills so that they can lead enlightened, ethical, and productive lives. The information systems area of the computer science department provides excellence in education by hiring professors primarily interested in the student, providing guidance and support to these educators by formal[6] and informal[7] mentoring as well as giving these teachers the time and funds necessary to develop their expertise, and by promoting effective educators. The importance of community and the principle of service aspects are shown by the information systems area faculty by the quantity and quality of projects provided to the community across several sectors. Our faculty are also heavily involved in their sub-disciplines. For example Dr. Craig Fisher is and has been a board member of the International Conference on Information Quality, while a new professor, Dr. Russ Robbins, is beginning a new research area by co-leading a mini-track at the Americas Conference for Information Systems, specializing in "Human Characteristics and Ethics in the Decision Environment."

Our second prong for assessment is comparison of our curricula to an independent standard. The independent standard we are using is the IS 2002 Model Curriculum and Guidelines for Undergraduate Degree Programs in Information Systems developed jointly by the Association for Computing Machinery (ACM), Association for Information Systems (AIS), and the Association of Information Technology Professionals (AITP),

[5] Marist College Strategic Plan (2004-2009) Executive Summary, p. 2.
[6] Deans and senior faculty regularly visit classes, have open doors, and provide feedback.
[7] The Center for Teaching Excellence provides opportunities for informal feedback as well as teaching seminars.

which was summarily described in Section 2 of this document. Figure 10 below describes exit criteria that should be held by undergraduate information systems graduates. Tables 8 (Parts 1 and 2) and 9 (Parts 1 and 2) compare higher level expected exit criteria for undergraduate students as outlined in the standard, to experiences offered in courses to develop competencies in these areas. Table 8 compares the independent standard to the requirements for courses for students starting the BSIS program prior to Fall 2007, while Table 9 compares the independent standard to requirements for courses in the Information Systems track of the new Bachelors of Science in Information Technology and Systems.

Our third prong for assessment is feedback from our students, as exiting seniors. The senior exit surveys point toward a need for more hands on classes, more electives, more Internet and WWW classes while continuing our strong tradition of blending business classes, real life projects, professors with real world experience, and critical/systems thinking.

Analytical and Critical Thinking		
Organizational Problem Solving (OPS)	Ethics and Professionalism (EP)	Creativity (CR)
Problem solving models, techniques, and approaches.	Codes of conduct. Ethical theory. Leadership.	Creativity concepts.
Personal decision making.	Legal and regulatory standards.	Creativity techniques.
Critical thinking.	Professionalism – self-directed, leadership, time management.	The systems approach.
Methods to collect, summarize, and interpret data.	Professionalims – commitment to and completion of work.	
Statistical and mathematical methods.		

Business Fundamentals		
Business Models (BM)	Functional Business Areas (FBA)	Evaluation of Business Performance (EBP)
Contemporary and emerging business models.	Accounting	Benchmarking.
Organizational theory, structure, and functions.	Finance	Value chain and value network analysis.
System concepts and theories.	Marketing	Quality, effectiveness, and efficiency.
	Human Resources	Valuation of organizations.
	Logistics and manufacturing	Evaluation of investment performance.

Interpersonal, Communication, and Team Skills		
Interpersonal (I)	Team Work and Leadership (TWL)	Communication (CO)
Listening	Building a team.	Listening, observing, interviewing, and documenting.
Encouraging	Trusting and empowering.	
Motivating	Encouraging.	Abstraction and precise writing.
Operating in a global, culturally diverse environment.	Developing and communicating a vision/mission.	Developing multimedia content.
	Setting and tracking team goals.	Writing memos, reports, and documentation.
	Negotiating and facilitating.	Giving effective presentations.
	Team decision making.	
	Operating in a virtual team.	
	Being an effective leader.	

Technology			
Application Development (AD)	Internet Systems Architecture and Development (ISAD)	Database Design and Administration (DDA)	Systems Infrastructure and Integration (SII)
Programming principles, Objects, algorithms, modules, testing, appl. development, requirements, specifications, development, algorithmic design, data, object, and file structures	Web page development	Modeling and design	Computer systems hardware,
	Web architecture design and development	Construction, schema tools, DB systems	Networking and telecommunications, LAN/WAN design and management,
	Design and development of multi-tiered architectures.	Triggers, stored procedures, design and development of audit controls, Administration: security, safety, backup, repairs, and replicating	Systems software, operating system mgmt, Systems configuration, operation, and administration.
Client-server software dev.			

Information Systems = Technology-enabled Business Development Systems Analysis and Design, Business Process Design, Systems Implementation, IS Project Mgmt (IS)		
Strategic utilization of information technology and systems.	Systems analysis	Deployment
IS planning	Logical and physical design	Maintenance
IT and organizational systems.	Design execution	Use of IT
	Testing	Customer Service

Figure 10: Detailed Exit Characteristics of Information Systems Graduates
(from IS 2002 Model Curriculum and Guidelines for Undergraduate Degree Programs in Information Systems, p. 1

Course No.	R	Course Title	OPS	EP	CR	BM	FBA	EBP	I
CMSC 120	X	Computer Science 1	X		X				
CMSC 121	X	Computer Science 2	X		X				
IS 110	X	Computing Studies Seminar							
IS 130	X	Computing Studies Concepts	X			X	X		X
IS 236	X	Problem Solving & Programming in Business	X		X				
IS 321	X	The Architecture of Hardware & Software							
IS 404	X	Systems Analysis Methods	X	X	X	X			X
IS 406	X	Data Communications	X	X	X			X	X
IS 407	X	Laboratory for Data Communications							
IS 408	X	Data Management 1	X		X				X
IS 409	X	Laboratory for Data Management	X						
IS 461	X	Systems Design Methods	X	X	X	X			X
IS 492	X	Information Systems Project	X	X	X	X			X
IS 4xx	X	Upper-level Elective (Excludes Internship)							
IS 477	X	IS Policy	X	X	X	X	X	X	X
PHIL 101	X	Introduction to Philosophy	X						
PHIL 300	X	Ethics	X	X					
ENG 116	X	College Writing 1[8]							
ENG 117	X	College Writing 2							
MATH 115	X	Calculus with Management Applications	X						
MATH 130	X	Introduction to Statistics 1	X						
MATH 230	X	Operational Models	X						
MATH 250	X	Discrete Mathematics 1	X						
ECON 101	X	Principles of Macroeconomics				X			
ECON 102	X	Principles of Microeconomics				X			
BUS 100	X	Introduction to Business & Management				X	X	X	X
BUS 340	X	Marketing Management				X	X	X	X
ACCT 203	X	Financial Accounting				X	X	X	X
ACCT 204	X	Managerial Accounting				X	X	X	X
	18	Core Liberal Studies[9]							

Table 8 (Part 1): Comparison of Exit Characteristics of IS Graduate per IS 2002 Model Curriculum and Experiences in Required Coursework in 2001

Legend:
R: Required
OPS: Organizational Problem Solving
EP: Ethics and Professionalism
CR: Creativity
BM: Business Models
FBA: Functional Business Areas
EBP: Evaluation of Business Performance
I: Interpersonal

[8] Students who do not have basic writing skills take English 101 and than English 116; Average Students take English 116 and then 117; Students who are advanced take English 117 after testing out of 116.
[9] Students were required to take 18 credit hours in Core Liberal Studies. These include philosophy, fine arts, literature, history, and natural science. Students are encouraged to take at least one course in a foreign language.

Course No.	R	Course Title	TWL	CO	AD	ISAD	DDA	SII	IS
CMSC 120	X	Computer Science 1			X				
CMSC 121	X	Computer Science 2			X				
IS 110	X	Computing Studies Seminar							
IS 130	X	Computing Studies Concepts		X		X			X
IS 236	X	Problem Solving & Programming in Business		X	X				
IS 321	X	The Architecture of Hardware & Software						X	
IS 404	X	Systems Analysis Methods	X	X	X		X		X
IS 406	X	Data Communications	X	X				X	
IS 407	X	Laboratory for Data Communications							
IS 408	X	Data Management 1	X	X	X	X	X	X	X
IS 409	X	Laboratory for Data Management	X			X	X		
IS 461	X	Systems Design Methods	X	X	X		X		X
IS 492	X	Information Systems Project	X	X	X	X	X	X	
IS 4xx	X	Upper-level Elective (Excludes Internship)							
IS 477	X	IS Policy	X	X					X
PHIL 101	X	Introduction to Philosophy		X					
PHIL 300	X	Ethics		X					
ENG 116	X	College Writing 1[10]		X					
ENG 117	X	College Writing 2		X					
MATH 115	X	Calculus with Management Applications							
MATH 130	X	Introduction to Statistics 1							
MATH 230	X	Operational Models							
MATH 250	X	Discrete Mathematics 1							
ECON 101	X	Principles of Macroeconomics							
ECON 102	X	Principles of Microeconomics							
BUS 100	X	Introduction to Business & Management							
BUS 340	X	Marketing Management							
ACCT 203	X	Financial Accounting							
ACCT 204	X	Managerial Accounting							
	18	Core Liberal Studies[11]							

Table 8 (Part 2): Comparison of Exit Characteristics of IS Graduate per IS 2002 Model Curriculum and Experiences in Required Coursework in 2001

Legend:
R: Required
S: Suggested
TWL: Team Work and Leadership
CO: Communication
AD: Application Development
ISAD: Internet Systems Architecture and Development
DDA: Database Design and Administration
SII: Systems Infrastructure and Integration
IS: Systems Analysis and Design, Business Process Design, Systems Implementation, and IS Project Management

[10] Students who do not have basic writing skills take English 101 and than English 116; Average Students take English 116 and then 117; Students who are advanced take English 117 after testing out of 116.
[11] Students were required to take 18 credit hours in Core Liberal Studies. These include philosophy, fine arts, literature, history, and natural science. Students are encouraged to take at least one course in a foreign language.

Course No.	R	IS	IT	Course Title	OPS	EP	CR	BM	FBA	EBP	I
CMSC 110	X			Computing Studies Seminar							
CMSC 120	X			Computer Science 1 & Lab	X		X				
CMSC 121	X			Computer Science 2	X		X				
ITS 130	X			IT&S Concepts	X			X	X		X
ITS 210	X			Web Programming 1	X		X				
ITS 220	X			Web Programming 2	X		X				
ITS 321	X			Architecture of HW & SW							
ITS 406	X			Data Communications						X	X
ITS 408	X			Data Management	X						X
ITS 430	X			Systems Analysis & Design	X	X	X	X			X
ITS 452		X		Decision Support Systems							
ITS 492		X		Information Systems Project	X	X	X	X			X
ITS 428		X		Data Quality in Information Systems	X	X	X				
ITS 478		X		IT&S Policy	X	X	X	X	X	X	X
ITS 312			X	UNIX							
ITS 4XX			X	Technology Entrepreneurship							
ITS 410			X	Systems Admin. & Mgmt.							
ITS 415			X	Internetworking							
ITS 477			X	IT&S and Society							
			9	IT&S Electives[12]							
		15	3	General Electives / Internships[13]							
PHIL 101	X			Introduction to Philosophy	X						
PHIL 300	X			Ethics	X	X					
ENG 116	X			College Writing 1[14]							
ENG 117	X			College Writing 2							
MATH 241	X			Calculus 1	X						
MATH 130	X			Introduction to Statistics 1	X						
MATH 250	X			Discrete Mathematics 1	X						
ECON 101		X		Principles of Macroeconomics				X			
ECON 102		X		Principles of Microeconomics				X			
BUS 100	X			Intro. to Business & Mgmt.				X	X	X	X
BUS 340		X		Marketing Management				X	X	X	X
ACCT 203		X		Financial Accounting				X	X	X	X
ACCT 204		X		Managerial Accounting				X	X	X	X
	9	9	15	Core Liberal Studies[15]							

Table 9 (Part 1): Comparison of Exit Characteristics of IS Graduate per IS 2002 Model Curriculum and Experiences in Required Coursework beginning in Fall 2007.

Legend:

Coursework
R: Required for Major
IS: Information Systems Concentration
IT: Information Technology Concentration

IS 2002 Suggested Exit Characteristics
OPS: Organizational Problem Solving
EP: Ethics and Professionalism
CR: Creativity; **BM:** Business Models
FBA: Functional Business Areas
EBP: Evaluation of Business Performance
I: Interpersonal

[12] Beginning in Fall 2007, students pursuing the IT concentration must complete 9 credit hours in IT&S electives.
[13] Beginning in Fall 2007, students pursuing the IS concentration must complete 15 credit hours in general electives or internships; For IT students, the number of credits is 3.
[14] Students who do not have basic writing skills take English 101 and than English 116; Average Students take English 116 and then 117; Students who are advanced take English 117 after testing out of 116.
[15] Beginning in Fall 2007, all ITS students must take 9 credit hours in Core Liberal Studies; IS students must take an addition 9 credits and IT students must take an additional 15.

Course No.	R	IS	IT	Course Title	TWL	CO	AD	ISAD	DDA	SII	IS
CMSC 110	X			Computing Studies Seminar							
CMSC 120	X			Computer Science 1 & Lab			X				
CMSC 121	X			Computer Science 2			X				
ITS 130	X			IT&S Concepts		X		X			
ITS 210	X			Web Programming 1		X	X				
ITS 220	X			Web Programming 2		X	X				X
ITS 321	X			Architecture of Hardware & Software						X	
ITS 406	X			Data Communications						X	
ITS 408	X			Data Management	X	X	X	X	X	X	X
ITS 430	X			Systems Analysis & Design	X	X	X		X		X
ITS 452		X		Decision Support Systems	X	X	X	X	X		
ITS 492		X		Information Systems Project	X	X	X	X	X	X	X
ITS 428		X		Data Quality in Information Sys.		X	X		X		
ITS 478		X		IT&S Policy	X	X					X
ITS 312			X	UNIX							
ITS 4XX			X	Technology Entrepreneurship							
ITS 410			X	Systems Admin. & Management							
ITS 415			X	Internetworking 1							
ITS 477			X	IT&S and Society							
			9	IT&S Elective							
		15	3	General Electives / Internships							
PHIL 101	X			Introduction to Philosophy		X					
PHIL 300	X			Ethics		X					
ENG 116	X			College Writing 116		X					
ENG 117	X			College Writing 2		X					
MATH 241	X			Calculus 1							
MATH 130	X			Introduction to Statistics 1							
MATH 250	X			Discrete Mathematics 1							
ECON 101		X		Principles of Macroeconomics							
ECON 102		X		Principles of Microeconomics							
BUS 100	X			Intro. to Business & Mgmt.							
BUS 340		X		Marketing Management							
ACCT 203		X		Financial Accounting							
ACCT 204		X		Managerial Accounting							
	9	9	15	Core Liberal Studies							

Table 9 (Part 2): Comparison of Exit Characteristics of IS Graduate per IS 2002 Model Curriculum and Experiences in Required Coursework beginning in Fall 2007

Legend:

Coursework
R: Required for Major
IS: Information Systems Concentration
IT: Information Technology Concentration

IS 2002 Suggested Exit Characteristics
TWL: Team Work and Leadership
CO: Communication
AD: Application Development
ISAD: Internet Systems Architecture and Development
DDA: Database Design and Administration
SII: Systems Infrastructure and Integration
IS: Systems Analysis and Design, Business Process Design, Systems Implementation, and IS Project Management

[16] Students who do not have basic writing skills take English 101 and than English 116; Average Students take English 116 and then 117; Students who are advanced take English 117 after testing out of 116.

Information Systems Minor and Certificate

Undergraduates majoring in other fields can elect to earn a minor in Information Systems. The most common majors that pursue the minor include all Business majors and Computer Science. Students who have at least 50 undergraduate college credits earned can also pursue a Certificate in Information Systems Analysis and Design. The purpose of the certificate is to provide an in-depth, short-term concentration in core Information Systems technologies to prepare students for career changes or to feed into the Bachelors degree program. A parallel graduate certificate is available for individuals who have already earned a Masters degree in another field. The information systems area of the computer science department is currently reviewing what courses should be required to obtain an Information Technology and Systems minor or minors or what courses should be included for an Information Technology and Systems certificate or certificates. Figures 11 and 12 show the requirements for the IS equivalents which will be phased out. For more information, please see Section 10 for future activities regarding the IS Minor and the SAD certificate.

The minor in Information Systems requires students to complete all of the eight courses shown below. Due to the course prerequisites and other interdependencies, students are recommended to commence the minor not later than the Fall semester of their Sophomore year in order to complete the sequence in the Spring Semester of their Senior Year.

CMSC 120 – Computer Science 1	4 credits
MATH 250 – Discrete Mathematics	3 credits
IS 110 -- Computing Studies Seminar	1 credit
IS 130 – Information Systems Concepts	3 credits
IS 236 -- Problem Solving and Programming in Business	3 credits
IS 404 – Systems Analysis Methods	3 credits
IS 408 – Data Management	3 credits
IS 409 – Data Management Lab	1 credits
BUS 100 – Introduction to Business and Management	3 credits
Total Credits	**24 credits**

Figure 11: Requirements for a Minor in Information Systems

CMSC 120 Computer Science I
ITS 130 Computing Studies Concepts
IS 236 Problem Solving and Programming in Business
IS 404 Systems Analysis
ITS 408 Data Management
IS 461 Systems Design Methods
IS 406 Data Communications
IS 492 IS Project

The certificate will be awarded after the successful completion of the eight courses if the student has received a grade of C or better in each course.

Figure 12: Information Systems Analysis and Design Certificate

The Institute for Data Center Professionals

Marist College officially launched its new Institute for Data Center Professionals at the "Data Center of the Future: Emerging Technologies" conference in NYC on September 19, 2002. The Institute for Data Center Professionals (IDCP) strives to be America's leading provider of information, education, training and certification for data center professionals. As a professional organization, the IDCP has a member roll that includes professionals in the areas of data center systems and software, networking, facilities, operations, product development and financial systems. The Institute for Data Center Professionals (IDCP) is an independent vendor-neutral certifying body (www.idcp.org). Its mission is to support the professionals responsible for and working in data centers by providing information, access to education and training, certification, and other services for data center professionals in the areas of systems and software, networking, facilities management, operations and process management, product development and financial planning, security, as well as other relevant core organizational and leadership skills.

As part of its mission, the Institute for Data Center Professionals is responsible for testing and certifying data center professionals as qualified to be addressed as a Certified Data Center Professional (CDCP). The Certified Data Center Professional (CDCP) is for administrators and those making inroads into the data center profession who need broader technical skills in systems and software, networking, facilities management, operations and process management, product development and financial planning, security as well as enhanced interpersonal, organizational and communications skills. There are six (6) certification associates that make up the Certified Data Center Professional certification process:

1. Data center systems and software
2. Data center networking
3. Data center facilities management
4. Data center operations and process management
5. Data center product development and financial planning
6. Data center security

Marist College is the inaugural academic training provider for the Institute for Data Center Professionals (IDCP). Marist has developed an innovative online eLearning program called Data Center Technology. The skills-based curriculum prepares students for a Certified Data Center Professional (CDCP) certification through IDCP. Most courses are offered in an accelerated online format. This approach provides working professionals with a convenient way to apply their coursework to their job, while fitting it into their busy schedules.

For students interested in completing a bachelor's degree or even earning a second bachelor's degree with a focus on Data Center Technology, Marist College offers the bachelor's degree in Integrative Studies with concentrations in Information Systems and Information Technology. The Data Center Technology accelerated cohort program is a unique 100% online undergraduate program designed for successful adult students with significant work experience who wish to complete the last 53 credits of their bachelor's

degree in the study of Data Center Technology. Marist's program in Data Center Technology maps to IDCP's areas of certification focus. These courses are not only credit bearing but are designed to build student's skills and prepare them for IDCP's Certified Data Center Professional (CDCP) certification. Additional information can be found at www.idcp.org.

		Net	Sys	Sec	Fac	Op	Prod	CDCP	BS
ITS 130	IT&S Concepts	X	X	X	X	X	X	X	X
ITS 406	Data Communications	X						X	X
ITS 415	Internetworking 1	X						X	X
CMSC 119	Introduction to Programming		X					X	X
ITS 321	Arch. of Software & Hardware		X					X	X
ITS 410	Systems Admin. & Management			X				X	X
ITS 420	Internet Security			X				X	X
ITS 482	Introduction to Facilities				X			X	X
ITS 430	Systems Analysis & Design					X		X	X
ORG 101	Managing IT Organizations					X		X	X
ITS 378	Project Management					X	X	X	X
ACC 203	Financial Accounting						X	X	X
PHIL 103	World Views & Values								X
	Personal History & Educ. Exp.								X
	Capping Experience								X
	3 Liberal Arts Seminars								X

Table 10: Certifications and Degree Program offered through IDCP

Legend:
Net: Data Center Technology (IDCP) Networking Certificate
Sys: Data Center Technology (IDCP) Systems and Software Certificate
Sec: Data Center Technology (IDCP) Security Certificate
Fac: Data Center Technology (IDCP) Facilities Management Certificate
Op: Data Center Technology (IDCP) Operations and Process Management Certificate
Prod: Data Center Technology (IDCP) Product Development and Financial Planning Certificate
CDCP: (IDCP) Certified Data Center Professional
BS: 53 credits towards a BS in Integrative Studies with a concentration in Information Systems and Technology.

Section 8: Graduate IS Education at Marist College

Overview of the Master of Science in Information Systems

The Master of Science in Information Systems focuses on applying information systems and information technology to improve the performance of people in organizations. It is especially appropriate for persons who wish to become the organizational change agents, innovators, and thought leaders of the future. Multiple courses are real-client based in order to enhance the student's consultative skills and experience. Specific areas of emphasis include eliciting client requirements, analyzing, planning, designing, developing, and implementing information systems applications, and managing information systems development and operation. Appropriate behavioral, organizational, and financial knowledge and skill development support the technological central theme.

The IS program is designed to prepare individuals for a working career in industry, government, or education. Specific career paths for the graduating ISM professional include systems analyst and/or designer, business analyst, information systems project manager, data administrator, data processing auditor, information systems manager, consultant, or educator. Career paths for the ITM professional include security administrator, technical manager, systems administrator, network specialist, network operations manager, IT administrator, internet engineer, LAN/WAN engineer, network administrator.

For those already employed in related disciplines, the IS program provides the advanced professional courses necessary to enhance career development opportunities. In essence, by studying and practicing systems thinking, mental modeling, shared vision building, and team learning, the graduate of this program is well prepared to help develop and sustain what MIT's Peter M. Senge calls the "learning organizations" of the future. Two tracks are offered. One is the foundation for a career position of Chief Information Officer (CIO). The second is the foundation for a career position of Chief Technology Officer (CTO).

Effective communication is a critical skill required of every student. In order to further develop and nurture a student's oral and written communication skills, the Marist pedagogy includes the following as critical success factors for students in information systems:

- dialogue, not lecture, is the primary teaching method used. Most of the courses in this program will require students to verbally interact with the instructor and/or your peers on a regular basis in class or online;
- participation in small group or team situations. These are designed to help develop systems thinking and to enhance interpersonal skills both in and out of the classroom;
- oral presentations to the class, or to a real client;
- written reports or research papers which will help evaluate the effectiveness of the students' written communication skills and provide feedback for improving them.

To qualify for the Master of Science degree in Information Systems, a student must normally complete 36 to 37 hours of work at the graduate level (excluding any prerequisites). Course waivers may reduce this to as few as 30 credit hours. As a rule, each student is expected to complete the IS degree as outlined at the time of admission to Marist College. Therefore, under normal circumstances transfer credit or waiver requests for graduate work taken elsewhere after admission to this program will not be granted. Such substitutions will only be considered for a substantive reason, such as relocation.

Upon acceptance into the program, graduate students receive a list of prescribed courses to be successfully completed. Specific undergraduate or graduate course work may be recommended to satisfy prerequisite requirements or remedy deficiencies as identified by the graduate director. IS degree requirements must be completed within seven (7) years of acceptance into the program with a cumulative index of 3.0 or higher. Requests for an extension of the seven-year limitation must be made in writing to the graduate director.

Part-time students are normally limited to registering for one graduate course during their first semester, unless special arrangements are approved in advance by the graduate director. Full-time study is defined as a semester load of at least nine graduate credits. In certain cases, the graduate director may include one or more substitute courses in a student's program. When this occurs, these substitute courses will become part of the degree requirements in place of the standard courses. The program director serves as the primary advisor to all students in the program. The graduate director regularly makes specific recommendations on course sequences to be followed by individual students, and approves all program planning requests made by students.

The IS graduate program offers two specializations. Each specialization consists of six required common IS core courses and three required specialization-specific courses. One specialization is the Information Systems Management track (ISM), which has a business application focus. The other specialization, Information Technology Management track (ITM), has an Information Technology focus.

MSIS Core Required Courses (15 Credits)

MSIS 527 Systems & Information Concepts in Organizations	3 credits
MSIS 537 Data Management I	3 credits
MSIS 567 Data Communications	3 credits
MSIS 647 Information Analysis	3 credits
MSIS 657 Systems Design	3 credits

ISM track Required Courses (9 credits)

MBA 525 Marketing Foundations	3 credits
MBA 555 Management Foundations	3 credits
MBA 575 Finance Foundations	3 credits

Electives: 9 credits from Information Systems, Business, Software Development

Prerequisite:
MATH 130 Introduction to Statistics

ITM Required Courses (16 credits)

MSIS 507 Computer Concepts & Software Systems	3 credits
MSIS 517 Web Technologies	3 credits
MSIS 561 Data Communications Lab	1 credit
MBA 525 Marketing Foundations	3 credits
MBA 555 Management Foundations	3 credits
MBA 575 Finance Foundations *Or*	
MBA 545 Accounting Foundations	3 credits

Electives 3 credits from Information Systems, Business, Software Development

Prerequisites:
MSIS 500 Fundamentals of Object-Oriented Programming
MATH 130 Introduction to Statistics

Figure 13: Masters of Science in Information Systems Curriculum

The MSCS/IS becomes a MSIS

The Masters degree in Information Systems has evolved in the last five years to reflect the rapid changes occurring in the Information Systems. The course requirements and the content of existing courses has changed continually to ensure that the program remains current and relevant. New courses have been added to the program. Even the name of the program has changed to highlight the relevance of information systems and information technology and fully autonomous disciplines. Changes introduced in the program in the last five years are listed below.

- The program was relabeled as Master of Science in Information Systems, replacing the previous label of Master of Science in Computer Science / Information Systems.
- A new track was added to the program (Information Technology Management).
- New elective and core courses were added to the program:

    - MSIS 557 - Data Quality
    - MSIS 638 - Business Intelligence
    - MSIS 517 - Web Technologies
    - MSIS 579 - Wireless Communications
    - MSIS 591 - Project Management

Evolution of MSCS and MSIS Courses

The **Systems and Information Concepts in Organizations** course (MSIS 527) has two key main foci to 1) introduce and "enforce" the concept of the systems approach based upon scientific problem solving through application in 4 to 5 significant case studies, and 2) demonstrate the relationship of Information Technology Systems to the success of corporations through general topics such as Corporate Strategic Planning, Competitive advantages of ITS, Value Chain, E-Commerce, Enterprise Resource Planning, Organizational Learning, etc. as well as fundamental concepts of Systems Analysis & Design, Database and Networking, and Systems Development Life Cycle. Thus readings on these topics are regularly updated.

In 2002, readings and discussions on e-Commerce were added, and general concepts of e-Commerce, Internet and electronic voting, electronic voting and organizational learning were introduced. New case studies were also used. In 2003, the topic of how Internet voting is related to electronic government was expanded, as was the topic of international communication. The emphasis here was on understanding users' points of view. An exercise is given in which the students must try to convince someone who is already known to disagree with them with an opposite opinion. It has been consistently demonstrated that the people who understand multiple points of view are the most successful. This was based on a research paper authored and presented by C. Fisher at the ISECON Conference in 2002. Philadelphia, PA. "Application in areas of communication with users—must understand their requirements/issues in their terms and from their perspective before making a series of technological recommendations."

In 2004, the course included examination of ethics of Government terrorist tracking databases, e.g., with respect to privacy vs. security concerns, and new case studies. In 2005, the concepts of off-shoring and how this activity augments outsourcing was introduced.

The **Data Management** course (MSIS 537) continues to study the critical issues related to managing data in organizations. The concept of data as a resource, the data environment, the database approach, and the need for data modeling are examined in detail. The growing use of database management systems in managing data is discussed. The data administration function, its relevance in evolving organizations, and emerging issues are also addressed.

In 2002, The **Data Quality in Information Systems** course (MSIS 557) was proposed as a permanent course by several bodies, including the Computer Science Department, the School of Computer Science and Mathematics, the Academic Affairs Committee, and the Faculty of Marist College. This course has become a permanent elective and has been available to all Information Systems and Information Technology majors. In 2003 the course was not offered. In 2004, by using a rough draft version of a new textbook, Introduction to Information Quality, co-authored by two Marist College professors and a colleague at MIT, the following topics were introduced; Statistics—2 weeks, Process Control—2 weeks. Also Total Quality Management coverage was enhanced. During this year, the course enhanced the Information Quality Assessment (IQA) Assignment. This assignment was part of a multi-year project at the Dutchess County Office for the Aging. Students were required to compare and analyze their report with respect to a study performed at the Office for the Aging in 2002. In 2005, the course was not offered. Beginning in 2006, the course was offered online, which put more emphasis on student research focused upon several new journal articles, web sites, and their own interests.

Starting in the fall 2007, the Data Quality in Information Systems course is being upgraded to be an Information Quality for the Information Executive course in the IT track of our new MSTM program. The new MSTM major is jointly offered by the School of Computer Science and Mathematics and School of Management.[17] The MSIS 557 course will begin using the textbook, Introduction to Information Quality by Fisher, Lauria, Chengalur-Smith and Wang. 2006. MITIQ Press. As well as several journal articles and the companion book, Journey to Data Quality by Lee, Pipino, Funk and Wang. 2006. MIT Press. Cambridge, MA.

The **Data Communications** course (MSIS 567) continues to examine the concepts and mechanisms of data transport systems including information in the form of data, voice, and image. Network architecture, terminology, control, and general topologies are discussed. Current equipment and physical interconnection are explored in an applied model incorporating a range of network services to support application development, distributed processing, information centers, and distance learning. Emphasis is placed on the impact of data communications technology on organizations and on the design of future information systems.

[17] See Section 8e for more information.

The **Decision Support Systems** course (MSIS 637) continues to study support systems for decision making in complex, technologically rich environments. The focus is on decision theory principles, problem identification, model formulation, and solution procedures. The distinction between decision support systems and transactional modes of processing information is examined. Sample quantitative and qualitative tools will be employed to study the behavioral aspects of decision making in a decision support environment. At least one expert system will be examined or developed. Neural networks are discussed.

The purpose of the **Information Analysis** course (MSIS 647) continues to provide basic understandings of systems analysis and design using a real world project or cases. It focuses upon systems analysis primarily. Students examine strategies for developing information systems. Students develop their software engineering and teamwork skills. The text that has been used throughout this period was Kendall and Kendall's classic *Systems Analysis and Design* text.

The **Systems Design** course (MSIS 657) has continued to serve the same purposes as the Information Analysis course, but as a second course in systems analysis and design. However in this second course much more effort is spent on teaching/learning about user interface design as well as object-orientation, while solidifying concepts initially covered in Information Analysis. Most recently, in the Fall of 2006, the instructor experimented with taking a more holistic approach. He covered more of the software engineering process as opposed to focusing strictly on analysis and design complemented by a light coverage of other software engineering topics. Specifically, in the Fall 2006 version of the course, examples of new topics included software architecture, reuse, component-based software engineering, and a deep coverage of verification and validation were introduced, in addition to the traditional material covered. Also, instead of using Kendall and Kendall for a second semester, a new text was used. This text was *Software Engineering* by Ian Sommerville.

The **Business Intelligence** course (MSIS 638) continues to introduce the emerging information technologies for management support through business intelligence systems. On completion of this course, students should be able to: a) recognize the need for management support and business intelligence requirements beyond typical management information systems; b) understand the application of various information technologies for business intelligence that support transformation and analysis of massive amounts of transaction data; c) formulate and analyze the requirements for management support, and identify appropriate tools and techniques required for implementation of business intelligence systems (DW, OLAP, data mining).

In the **Graduate Internship in Information Systems** courses, (MSIS 693, 694, 695) students gain new experiences or expand already existing skills performing auditing, web development, database development and other roles.

The **Information Systems Policy** course (MSIS 730) is highly dependent upon student involvement in research on current topics and as such new journal articles are introduced regularly. The students must do research papers that present arguments from multiple perspectives such as ethical, economical, psychological, sociological and technical.

In 2001, the topic of Interaction of Organizations and Technology was expanded to provide fuller coverage of the impacts and influence that a CIO can have on a

corporation. Decisions made by or influenced by the CIO may lead an organization toward pessimistic or optimistic outcomes. The course now includes sections of this topic presented in thirds over a three week period to use as a framework to help tie various topics together throughout the semester. In 2002 readings and discussions on e-Commerce and Internet v. electronic voting were added and organizational learning topics were expanded. In 2003, the discussions and readings surrounding voting were expanded to electronic government, and the idea of submitting thesis papers to conferences and journals was piloted.

In 2004, more articles on e-Government were provided and discussed, and the ethics of government terrorist tracking databases were examined, especially as they are related to personal privacy and security. Also, in 2004, extra credit was given to students that submitted their Thesis Papers to Conferences and Journals. Three students papers have been accepted. In 2005, the course expanded by providing more emphasis on off-shore outsourcing, and outsourcing contract management.

MSIS Program Assessment

As mentioned previously, our approach to assessment was three pronged. We compared our MSIS program to the Marist Mission and Vision, to an independent standard, namely, the MSIS 2000 Model Graduate Curricula developed jointly by the ACM and the AIS, and to feedback received from previous students. Our first prong, comparing the Marist Mission and Vision with our program is largely similar to our discussion regarding the BSIS except that in the case of our MSIS, because our students are older and already have a bachelors degree, we assume that these students have had much of the material covered in our liberal arts core.

In terms of our second prong, comparison with an independent standard, please see Figure 14 and Tables 11. Figure 14 shows the suggested curriculum outlined in the 2000 version of the curriculum model while Table 11 shows how our courses meet those suggested requirements. We discussed results of our third prong, considering results of alumni and exiting graduate students in Sections 5 and 6 of this document.

IS Foundations (ISF)	Business Foundations (BF)	IS Core (ISC)		Career Electives (CE)
Fundamentals of IS IT Hardware and Software Programming, Data, and Object Structures	Financial Accounting Marketing (Customer Focus) Organizational Behavior	Data Management Analysis, Modeling, and Design Data Communications and Networking Project and Change Management IT Policy and Strategy	**Integration (I)**	Tracks (representative) Consulting Decision Making Electronic Commerce Enterprise Resource Planning Globalization Human Factors Knowledge Management Managing the IS Function Project Management Systems Analysis and Design Technology Management Telecommunications
Pre-/Co-requisite 9-12 units	9 units	Required 3 units	3 units	Elective 12 units

Figure 14: Suggested MSIS 2000 Curriculum from MSIS 2000 Model Curriculum and Guidelines for Graduate Degree Programs in Information Systems, *The Database for Advances in Information Systems*, 31(1): p. 13, Winter 2000.

Course No.	Req. Core	Req. ISM	Req. ITM	Elec	Course Title	ISF	BF	ISC	I	CE
MSIS 527	X				Systems and Information Concepts in Organizations	X			X	
MSIS 537	X				Data Management 1			X		
MSIS 567	X				Data Communications			X		
MSIS 647	X				Information Analysis			X		X
MSIS 657	X				Systems Design			X		X
MSIS 730	X				Information Systems Policy			X	X	X
MBA 525		X	X		Marketing Foundations		X			
MBA 545			X		Accounting Foundations		X			
MBA 555		X	X		Management Foundations		X			
MBA 575		X	X		Finance Foundations		X			
MSIS 507			X		Computer Concepts and Software Systems	X				
MSIS 517			X		Web Technologies					X
MSIS 561			X		Data Communications Lab			X		
MSIS 557				X	Data Quality					X
MSIS 579				X	Wireless Communications					X
MSIS 591				X	Project Management			X	X	X
MSIS 638				X	Business Intelligence					X

Table 11: Comparison of Course Requirements of MSIS Graduate per MSIS 2000 Model Curriculum and Required Coursework in Marist College MSIS

The Master of Science in Technology Management

In the fall of 2006 Marist College launched this interdisciplinary program by drawing upon the strengths of the School of Computer Science and Mathematics (SCSM), through its department of Computer Science, Information Systems and Information Technology, and the School of Management (SOM). The Master of Science in Technology Management (MSTM) program is a fully online, cohort-based graduate degree, targeting technology, science and engineering professionals with several years of experience in technical or managerial positions, who want to expand their managerial and technical skills and organizational knowledge in technology management and implementation. Graduates are expected to take up middle management and executive positions in organizations with responsibility to effectively use technology for organizational competitiveness. The program leverages student's career development that can lead to Senior Technology Executive roles. Alternatively these individuals may work in the role of consultants to traditional business managers in the application of technology to increase a firm's competitive advantage.

The MSTM program is a 12 course 36 credit hour part-time program to be completed in 6 semesters. It includes a 9-credit core for all candidates, with 3 course offerings from each School, and then a choice between two distinct tracks- "Information Technology and Systems Management", and "Strategic Technology Management". Both of these specializations have five additional courses distinguished by a 2 -semester capstone experience and an intensive 10-day international residency (course labeled "Global Aspects of Technology Management"), in which students are exposed to cultural differences in terms of society, organization, business and management. Students also have an orientation residency and a capstone presentation residency on Marist's main campus. We have reviewed many programs and have found that the positioning of the MSTM is comparatively unique as it:

- Creates an integrated enterprise view of IT and other technologies by focusing on its beneficial role across the value chain.
- Offers common core and two tracks, one in Strategic Technology Management and one in Information Technology and Systems Management.
- Instills Project Management as an integral skill in planning and managing operations.
- Focuses on the distinctive skills and role of the Senior Technology Executive in driving innovation across the organization, its suppliers, customers and partners.
- Develops ability to align business opportunities with emerging technologies.
- Offers an interdisciplinary program, it is offered fully online and follows a cohort format.
- Requires students to attend an international residency, dealing with technological changes across international markets and amidst global developments, virtual organizations, and management across cultures. Corporate site visits are combined with presentations by professors from non-USA universities and presentations by relevant practitioners.

For a student to be admitted to the MSTM program the following criteria must be met:

- A minimum of a bachelor's degree preferably in computer science, engineering, science or business with an MIS concentration. Other undergraduate majors are considered if the concurrent experience base warrants admission to the program.
- An undergraduate GPA of 3.0 or above
- Two recommendation letters
- At least three years of post-baccalaureate leadership and managerial experience in a technology role or at least 5 years post-baccalaureate professional experience in a technical position if little to no leadership or managerial experience
- A GMAT (Report code is K9K-FZ-91) score or a GRE (Report code is 2400) score (on both tests) of 500 or better - tests may be waived depending on student's professional experience.

For students to exit the program the must have completed all 36 credits of course work with grades of A, B or C and with at least a B average. The program directors serve as the primary advisor to all students in the program. Please see Figure 15 for the program requirements.

Master of Science in Technology Management Requirements

Core Courses	
MSTM601 Leadership and Organizational Behavior	3 credits
MSTM625 Marketing Foundations for Technology Managers	3 credits
MSTM640 Analyzing the Corporate Financial Environment of Technology-Driven Companies	3 credits
MSTM603 Systems and Information Concepts in Organizations	3 credits
MSTM613 Information Systems Policy	3 credits
MSTM623 Decision Making Tools for the Technology Manager	3 credits
Strategic Technology Management Track	
MSTM715 Economics for the Technology Manager	3 credits
MSTM765 Managing Technology Operations and Projects	3 credits
MSTM754 Managing Organizational Change	3 credits
MSTM801 Technology Management for Competitive Advantage: Capstone Experience I	3 credits
MSTM802 Technology Management for Competitive Advantage: Capstone Experience II	3 credits
Information Technology and Systems Management track	
MSTM710 Managing Information Resources in a Networked Economy	3 credits
MSTM720 Enterprise Information Modeling	3 credits
MSTM730 Data and Information Quality for the Information Executive	3 credits
MSTM811 Information Technology Management for Competitive Advantage: Capstone Experience I	3 credits
MSTM812 Information Technology Management for Competitive Advantage: Capstone Experience II	3 credits
International Component	
MSTM800 Global Aspects of Technology Management	3 credits

Figure 15: Masters of Science in Technology Management Requirements

The Five-Year BS/MS in Information Systems

In addition to its undergraduate and graduate information systems degrees, the Department of Computer Science also offers a joint BS/MSIS degree. The department recognizes that for some outstanding undergraduate students, much of their undergraduate work might well be reflective of both the content and quality of that typically expected at the graduate level. The Department further recognizes that certain outstanding undergraduate students could participate successfully in graduate classes. For these reasons, the Department offers a five-year program in Information Systems at the end of which the student will earn both the B.S and the M.S. in Information Systems degrees.

This program offers an accelerated way of obtaining a Master's degree. Instead of remaining three additional semesters at the minimum to gain the MS at 150 credits (120 for undergraduate + 30 at the graduate level), those IS undergraduate students who are admitted to the program will be required to take only 143 credits, or 23 additional credits that can be completed in two semesters, normally the Fall and Spring following their undergraduate studies. The program offers a mandatory field experience as a program requirement, which is particularly relevant for acquiring a position exiting a master's program. The five-year program is not appropriate for all students. Qualification occurs in the fourth semester. A cumulative GPA of 3.2 is required for acceptance into the program; a 3.0 is required for continuation in the program. Please see Figure 16 below for details regarding the joint program.[18]

[18] It is noted that the changing of the coursework required for the undergraduate ITS degree has an affect on this program. The ITS faculty are in the process of changing the five-year program to address this concern.

Requirements for the Five-Year BS/MS Program in Information Systems
Note: A minimum of 60 credits in Liberal Arts is required.

1.0 Course Requirements in Related Fields	
IS 110, 130, 236, 321, 406, 407, 408. 409	18 credits
CMSC 120, 121	7 credits
IS 497, 499 Advanced Internship	12 credits
Undergraduate Credit Requirement in IS and CMSC	37 credits
2.0 Course Requirements in Related Fields	
MATH 115, 130, 230, 250	12 credits
ECON 101, 102	6 credits
ACCT 203, 204 6 cr	
BUS 100, 301, 320, 340, 388	15 credits
Undergraduate Credit Requirement in Related Fields	39 credits
Total Undergraduate Credit Requirement in IS, CMSC and Related Fields	74 credits
3.0 Core/Liberal Studies Requirements	
3.1 FOUNDATION COURSES	
Philosophy/Ethics	6 credits
Writing	3-6 credits
	9-13 credits
3.2 DISTRIBUTION STUDIES	
Natural Science 6 cr	
Social Science (fulfilled by related field req.)	0 credits
History	6 credits
Literature	6 credits
Mathematics (fulfilled by related field req.)	0 credits
Fine Arts	3 credits
Philosophy/Religious Studies	3 credits
	9-12 credits
	24 credits
Total Credit Requirement Core/Liberal Studies	33-36 credits
Electives (Students are advised to defer free electives until Junior year at the earliest.)	
5.0 Graduate Courses taken at Undergraduate Level	
MSIS 527, 647, 657	9 credits
Total 4-Year Credit Requirement*	119 credits
6.0 Fifth-Year Graduate Courses	
MSIS 637, 640, 720 (Capping), 730 (Capping)	12 credits
MBA 610, 654, 661	9 credits
PSYG 545 or approved MSIS or MBA course	3 credits
Total Graduate Credits, Fifth Year	24 credits
Total Credits for Completing 5-Year B.S./M.S. Program*	143 credits

* Students normally would receive both the B.S. and the M.S. degree

Figure 16: Five-year BS/MS Program in Information Systems Requirements

The Advanced Certificate in Information Systems

An advanced certificate in Information Systems is offered. The requirements are shown in Figure17.

The Graduate Certificate in Information Systems is obtained upon satisfactory completion of the six courses (18 credits) from the graduate Information Systems program as follows:

MSIS 527 System & Information Concepts in Organizations	3 credits
MSIS 537 Data Management	3 credits
MSIS 567 Data Communications	3 credits
MSIS 647 Information Analysis	3 credits
MSIS 657 Systems Design	3 credits
MSIS 720 Information Systems Project	3 credits

Figure 17: Advanced Certificate in Information Systems

Section 9: Experiential Opportunities and Learning Environment

Internships

Internships provide students with an opportunity to put theoretical constructs to work in a real world environment while contributing to the organization in which they are working. The contribution by interns is not trivial. In most cases, students are paid, sometimes at the same level of consultants. Students have been responsible for the web sites of the companies they are working for; for example, several students provided the bulk of the coding of the General Electric site in 2001. In 2003, Jacob Morrison was awarded Intern of the Year, college wide for his work with IBM in the Joint Study project. Morrison provided leadership and technology skills to the development of Blade servers for the purpose of local high schools to utilize resources on the Marist Mainframe and the servers for courses and video streaming technology. Along with other students, he built and programmed these servers using cutting edge technologies.

In 1999, there was a surge in credit hours as Marist students provided essential Y2K troubleshooting for 15 different firms. Overall, there remains a consistent number of interns except in 1999 as noted previously and in 2001, 9 interns were employed by GE to develop their new web site. Both years are above the norm of 10 – 14 students as illustrated in Table 12.

Students provided a variety of skills to the firms in which they worked. Table 13 illustrates the various roles that students filled. The largest category is Technical support. The tasks included in technical support include the replacement and rollout of newer technology including desktops, servers and routers. Marist students are sought after for their skill and expertise in web development as well. In fact the bulk of the Marist website is coded by Marist students. Several other categories had a large number of students including; Database development and maintenance, programming and networking. These categories reflect strong areas of the curriculum at Marist. The list of firms is extensive; there are 63 different firms (see Table 14) that have provided internship opportunities to Marist students in the Information Systems major.

Although many of the firms are local, small businesses, some are multinational corporations. It does not necessarily matter what the size of the organization is for students to realize their potential and experience growth and opportunity. Even in small, public sector organizations like the Town of New Windsor, Marist interns have been able to accomplish remarkable projects. A single student was able to plan, develop and implement a Geographic Information System of the entire township infrastructure during his internship. Many students have gone on to become full time employees after graduation as well. IBM continues to recruit from the group of interns they employ every year. In the past two years, Marist has developed a relationship with Morgan Stanley; three of the 5 interns have been offered full time employment upon graduation. A new program will be added in the spring of 2007, Goldman Sachs will begin recruiting on campus for their summer internship program.

The internship program remains an integral part of the five year Masters in Information Systems degree with an emphasis on providing the student with the opportunity to gain experience and utilize the skills and knowledge acquired in the classroom.

Student Projects

Twenty-three organizations hosted student projects, for classes, in the time period 2001-2006. Please see Table 16. Details regarding these projects are in Appendices G and H. In 2006 and 2007, seven additional software engineering projects have been hosted by IBM and NXP Semiconductors. These include developing prototype or working information systems that support troubleshooting of fabrication plant tools, understanding problem tickets, reviewing software documents in the process of being written and certifying employees' training levels.

Year	Students	Credits
1998	10	47
1999	24	124
2000	14	48
2001	24	75
2002	10	41
2003	10	32
2004	10	57
2005	12	51
2006	9	29
Totals	**123**	**504**

Table 12: Students and associated internship credits by year (1998-2006)

Job Description	Number
Database	16
Financial Analysis	2
Mainframe	3
Network	11
Programming	10
Project Management	3
Security	2
Tech Support	38
Web Development	33
Web Marketing	1
Audit	2
Unknown	2
Total	**123**

Table 13: Job Descriptions by Number of Interns (1998-2006)

Alpha Numeric Integrated Solutions	1	**Philips Semiconductor**	1
American Red Cross	1	**Poughkeepsie Day School**	1
Amphenol	1	**Poughkeepsie Journal**	3
Boehringer Ingelheim Pharm	1	**Prudential Financial**	1
Callaghan Tax Services	1	**PWC**	1
CBG Inc	1	**Ropes & Gray**	1
CDI Information Tech	1	**Schuylerville Central SD**	1
Continuum Services	1	**SKA Wealth Management**	3
CRS Retail Systems	4	**Spectrum Graphics**	1
Cushman & Wakefield	2	**Spherion Technology**	1
Dansk International Designs	1	**St Paul Travelers**	1
Data Comm Services	1	**Town of New Windsor**	1
Decision Tech International	1	**United Way of DC**	1
Did-It.com	1	**UPS**	1
Digital Variant	1	**Verve Music Group**	1
Dutchess County BOCES	1	**Wells Fargo**	1
Dutchess County OoA	1	**Williams Assoc**	2
Easy Billing Systems Inc	1	**Merrill Lynch**	1
EGCON Consultants	1	**Morgan Stanley**	5
Ethnic American Broadcasting	1	**New Visions**	1
Family Services	1	**North Fork Bank**	1
General Electric	12	**Northeast Utilities**	2
GPI InterMedia	1	**Nytewolf**	2
Health Serve	4	**Philips Semiconductor**	1
Homedata Corp	1	**Poughkeepsie Day School**	1
Hudson River Psych Ctr	4	**Poughkeepsie Journal**	3
HSBC Bank	2	**Prudential Financial**	1
IBM	19	**PWC**	1
Indus Consultancy Services	2	**Ropes & Gray**	1
Intersys Inc	3	**Schuylerville Central SD**	1
Jim Waters Corp	1	**SKA Wealth Management**	3
Madison Square Garden	2	**Spectrum Graphics**	1
Marist College	15	**Spherion Technology**	1
MBIA	1	**St Paul Travelers**	1
McGowan & Assoc	1	**Town of New Windsor**	1
Merrill Lynch	1	**United Way of DC**	1
Morgan Stanley	5	**UPS**	1
New Visions	1	**Verve Music Group**	1
North Fork Bank	1	**Wells Fargo**	1
Northeast Utilities	2	**Williams Assoc**	2
Nytewolf	2		

Table 14: Company by Number of Interns (1998-2006)

A1 Fence Company
Amrod Enterprises
Astor Home for Children
Best Friend's Auto Repair
Carmel School District
Children's Services Council
Cindy Herman Associates
Dutchess County for the Aging (5 projects)
Fairview Fire Department
Gerry's Pizzeria
Hudson Valley Screen Printing and Embroidery
M & J Lumber
Marist College Office of Housing and Residential Life
Marist College ResNet
Marist College Study Abroad Program (2 projects)
Marist College Training and Development
Northern Dutchess Hardwoods
Schuylerville Central School District
St. Ann's Corner of Harm Reduction
The Anderson School
Town of New Windsor
Walden Historical Society
World Tae Kwon Do

Table 15: Class Projects (2001-2006)

Faculty Interests, Qualifications, and Contributions

We have five full-time professors. A sixth professor (Dr. Joan Hoopes) retired in 2006. Summary information about each follows. Curriculum Vitae can be found in Appendix E.

Craig Fisher earned his Ph.D. in Information Science at the University at Albany and his Masters Degree in Mathematics at Ball State University. He has significant industrial experience advancing through 4 levels of Information Systems management at IBM and becoming IBM's worldwide IS audit manager before joining Marist College. His papers have appeared in Information & Management (I&M), Information Systems Research (ISR), International Conference on Information Quality (ICIQ), International Association for Information Management (IAIM), Information Research Management Association (IRMA), Eastern Small College Computing Conference (ESCCC) and Information Systems Educators Conference (ISECON). In addition he is lead author on the book, *Introduction to Information Quality* published by MITIQ in 2006. Craig is past president and is currently on the Board of Directors for the International Conference on Information Quality (ICIQ) held annually at MIT.

Joan Hoopes earned her Ph.D. in Computer Science in the Thomas J. Watson School of Engineering, Applied Sciences, and Technology at the University at Binghamton. She also earned a Masters Degree in Management Information Systems in the School of Management. She is a frequent reviewer of scholarly research for the Information Resources Management Association (IRMA). Her papers have appeared in Hawaiian International Information Conference (HIICS) and Information Systems Educators Conference (ISECON).

Eitel Lauria, is an Electrical Engineer from University of Buenos Aires, Argentina; holds an MBA from Universidad del Salvador (Argentina) / University of Deusto (Spain); and received his PhD in Information Science from University at Albany, SUNY. Prior to his current appointment, he was a faculty member and Chair of the MIS Dept. at the School of Business, Universidad del Salvador. He has worked in the IT arena for 20+ years and has consulted for a a number of multinational firms including Microsoft, IBM, Exxon, Reuters, Philip Morris, Hewlett Packard, STET France Telecom, Accenture, and Ryder, advising on such topics as decision support systems, business intelligence, data management and distributed applications. His research in Bayesian networks and statistical machine learning has been published in a number of major journals and by prestigious academic organizations, including Decision Support Systems, the European Journal of Operational Research, the Association of Information Systems, and the American Institute of Physics. Dr. Lauría serves as co-director of the Master of Science in Technology Management and as Project Manager at the Center for Collaborative and On-Demand Computing, Marist College.

Anne Matheus, is a doctoral candidate in Information Science at the University at Albany. Anne is the Director of Computer Literacy and a Professional Lecturer of Information Systems and Information Technology at Marist College, Poughkeepsie, New York. Her responsibilities include the administration of the Information/Computer Literacy program for undergraduates, as well as teaching in the undergraduate and graduate schools. Prior to accepting this position, Anne was the Director of Management Information Systems at a facility operated by the New York State Office of Mental

Health. In that capacity, and under her direction, her facility was one of the original recipients of a statewide award for Facility Information Center of the Year in 1999. Anne also provides information and technology consulting services through 3NF Consulting, Inc. She earned a bachelor's degree in Psychology, a master's degree in Community Psychology, and a master's degree in Computer Science from Marist College; she is completing her Ph.D. in Information Science at the State University of New York at Albany.

Nora Misiolek, earned her Ph.D. in Information Science and Technology from the School of Information Studies at Syracuse University. She also earned a Master's in Business Administration in Innovation Management and Marketing from the Whitman School of Management at Syracuse. She is a reviewer for Management Information Systems Quarterly (MISQ), the Academy of Management Annual Meetings, and the International Conference on Information Systems (ICIS). She has presented papers at the Academy of Management, Decision Sciences Institute (DSI), Hawaii International Conference on Systems Sciences (HICSS), Pan-Pacific Business Association Annual Conference, and International Association for the Management of Technology (IAMOT) Annual Conference. Her interests lie in virtual collaboration, and in the management of innovation and technology.

Russ Robbins earned his Ph.D. in Engineering Science and a M.S. in Information Technology at Rensselaer Polytechnic Institute (RPI). He also holds a M.S. in Accounting from Binghamton University as well as a B.S. in Business Administration from the University of Missouri. Prior to Marist College, Russ taught Management Information Systems for six years at the Lally School of Management and Technology at RPI and while there, was awarded a courtesy appointment to the Faculty of Information Technology. He co-founded Achaean Technology, Inc., an entrepreneurial venture focused upon providing enterprise information systems to not-for-profit agencies providing care to the developmentally disabled and mentally retarded. He has also worked for IBM, RPI, and the U.S. Army as an accountant, systems analyst, and soldier. He has published in *ACM proceedings* and *Decision Support Systems.* He has reviewed papers for the *Communications of the ACM*, *Journal of Business Ethics*, *Decision Support Systems*, *OMEGA* and the Americas Conference on Information Systems (AMCIS). Russ has presented his papers to the International Federation for Information Processing Working Group 8.2 Organizations and Society in Information Systems (OASIS), the Association for Information System's Special Interest Group for Decision Support Systems, the International Society for Ethics and Information Technology, and the Institute for Operations Research and Management Science (INFORMS) as well as other forums. He was one of four finalists in the 2004 Excellence in Ethics Dissertation Proposal competition hosted at the Institute for Ethical Business Worldwide in the Mendoza College of Business at the University of Notre Dame.

Faculty/Student Relationship

The ratio of faculty to full-time undergraduate students is 1:4; this excludes adult students pursuing their degrees on a part-time basis. Academic advising is coordinated through the Center for Advising and Academic Services, an academic support unit that provides a wide range of services for undergraduate students, faculty instructors, and for a team of faculty and administrative advisors. All students with the academic unit are required to meet with their faculty adviser in order to plan their semester schedules. In addition, the Academic Learning Center provides resources to facilitate student learning such as tutoring. Each faculty person that has been in the information systems area for at least two academic years has a set of students that she or he advises. Full-time faculty members are required to post 8 hours of office hours per week. In addition, faculty are frequently available by appointment and online, either via email or through dedicated online chat sessions during which students can contact them.

Classroom Resources

All classrooms are equipped with overhead projectors and mounted screens. Media classrooms located in the James A. Cannavino Library and in Lowell Thomas Hall are equipped with a faculty podium that houses a PC with network connection, DVD/VCR combination deck with campus cable TV tuner, and a document camera. Users may also connect auxiliary sources, such as a laptop or a video camera.

The Media Center provides academic support for audio/video/visual instructional technologies. Available support technologies include VCRs/monitors, computers and projectors, laptop projectors, slide projectors, camcorders, and audio playback/recorders.Additional Media Center facilities available for faculty and staff members for educational purposes related to Marist College include preview screening area, videoconferencing equipment and facilities, TV studio, audio studio, non-linear editing, duplication, conversion, off-air recording, live programming over campus cable television, screenings, and satellite downlink.

Library Resources

The James A. Cannavino Library, named for a long-time member of the Marist Board of Trustees, is an 83,000 square foot structure dedicated on May 6, 2000. The facility showcases IBM digital library technology, which allows students and faculty to access materials stored on the College's IBM z/900 mainframe as well as online information sources.

The $25 million library houses book stacks and archives on the ground floor; research materials, periodicals, and an "e-scriptorium: on the main floor, and a Center for Collaborative Learning on the top floor. Collaborative study rooms allow students to work on team projects. The library also offers more ports-per-student than any other college or university library in the United States with 860 such seats located within the

facility. Those students who don't own a laptop can borrow an IBM laptop for their personal use at the circulation desk.

Academic support functions ranging from a writing center to language labs and multimedia classrooms are among the features that serve as a laboratory for learning on the library's top floor. An executive presentation room provides a corporate board of directors' setting, complete with the latest presentation technology offerings. Distance education and extension students can access the library's resources from off-campus locations with a Marist Account and password.

The library's catalogue of holdings of books, periodicals, and newspapers can be accessed electronically through the Marist Digital Library from within the facility and through remote access with a Marist Account and password. The Ebrary is a unique service to which Marist College subscribes through Academic Complete, an ebook collection that covers all academic areas. Ebrary allows patrons to search 60,000 full-text books and reports housed in academic, government, public library, and single publisher collections. Customizable InfoTools allow patrons to navigate and search through documents as well as to copy and paste text from any document into Word, notepad, or email. Patrons can also create a Personal Bookshelf in which electronic books are stored that can subsequently be accessed, shared online, or printed.

114 online databases including ABI/Inform, ACM Digital Library, ACM Guide to Computing Resources, Proquest, JStor, and Lexis-Nexis Academic. These are complemented by an electronic full-text-journal subscription collection which allows patrons to access several hundred full-text journals in all academic disciplines.

Foxhunt is a search engine that allows patrons to search databases, periodicals, professional associations, journals, and reference works. Searches can be of general databases or tailored to discipline-specific data bases. Newsstand provides patrons with access to electronic editions of full-text daily newspapers (e.g., The New York Times, Los Angeles Times, Wall Street Journal), local Hudson Valley Newspapers (e.g., The Poughkeepsie Journal), newspaper collections (e.g., ProQuest National Newspapers), and Broadcast Media (e.g., BBC, NPR). Refshelf provides access to online reference sources such as dictionaries, resources on grammar and style, maps, images, biographical information, directories, book reviews, public opinion polls and surveys, almanacs, and factual and statistical data (e.g., U.S. Census Bureau, Department of Labor Statistics, Statistical Abstract of the United States).

Support Personnel

Staff support consists of one full-time secretary to the faculty located in Lowell Thomas Hall.

Section 10: Future Plans

Undergraduate Programs

We are currently in the process of working through the approval/revision processes that will update our information systems minor, the systems analysis and design certificate, and the five-year BS/MSIS program. Please see the figures below.

The [proposed] minor in Information Technology and Systems requires students to complete all of the eight courses shown below. Due to the course prerequisites and other interdependencies, students are recommended to commence the minor not later than the Fall semester of their Sophomore year in order to complete the sequence in the Spring Semester of their Senior Year.

CMSC 120 – Computer Science 1 and Lab	4 credits
MATH 250 – Discrete Mathematics	3 credits
ITS 110 -- Computing Studies Seminar	1 credit
ITS 130 – Information Systems Concepts	3 credits
ITS 210 – Web Programming 1	3 credits
ITS 430 – Systems Analysis and Design	3 credits
ITS 408 – Data Management	3 credits
BUS 100 – Introduction to Business and Management	3 credits
Total Credits	**23 credits**

Figure 18: [Proposed] Requirements for a Minor in Information Systems

CMSC 120 Computer Science I
ITS 130 Computing Studies Concepts
ITS 210 – Web Programming 1
ITS 430 – Systems Analysis and Design
ITS 408 Data Management
Approved ITS Upper-Level Elective
ITS 406 Data Communications
ITS 492 IS Project

This [proposed] certificate will be awarded after the successful completion of the eight courses if the student has received a grade of C or better in each course.

Figure 19: [Proposed] Information Systems Analysis and Design Certificate

[Proposed] Requirements for the Five-Year BS/MS Program in Information Technology and Systems Note: A minimum of 60 credits in Liberal Arts is required.	
1.0 Course Requirements in Related Fields	
ITS 110, 130, 210, 321, 406, 408. 428	19 credits
CMSC 120, 121	7 credits
IS 495-9 Advanced Internships or Approved Electives	14 credits
Undergraduate Credit Requirement in IS and CMSC	40 credits
2.0 Course Requirements in Related Fields	
MATH 130, 241, 250	10 credits
ECON 101, 102	6 credits
ACCT 203, 204	6 credits
BUS 100, 301, 320, 340	12 credits
Undergraduate Credit Requirement in Related Fields	34 credits
Total Undergraduate Credit Requirement in ITS, CMSC and Related Fields	74 credits
3.0 Core/Liberal Studies Requirements	
3.1 FOUNDATION COURSES	
Philosophy/Ethics	6 credits
Writing	3-6 credits
	9-13 credits
3.2 DISTRIBUTION STUDIES	
Natural Science 6 cr	
Social Science (fulfilled by related field req.)	0 credits
History	6 credits
Literature	6 credits
Mathematics (fulfilled by related field req.)	0 credits
Fine Arts	3 credits
Philosophy/Religious Studies	3 credits
	9-12 credits
	24 credits
Total Credit Requirement Core/Liberal Studies	33-36 credits
Electives (Students are advised to defer free electives until Junior year at the earliest.)	
5.0 Graduate Courses taken at Undergraduate Level	
MSIS 527, 647, 657	9 credits
Total 4-Year Credit Requirement*	119 credits
6.0 Fifth-Year Graduate Courses	
MSIS 637, 720 (Capping), 730 (Capping)	9 credits
MBA 610, 654, 661	9 credits
PSYG 545 and approved MSIS or MBA course	6 credits
Total Graduate Credits, Fifth Year	24 credits
Total Credits for Completing 5-Year B.S./M.S. Program*	143 credits
* Students normally would receive both the B.S. and the M.S. degree	

Figure 20: [Proposed] BS/MS Program in Information Systems

Dr. Misiolek will also be teaching an experimental course in the Spring 2008 semester focused upon technology transfer. A brief description of this course follows:

Technology transfer is the process of commercializing inventions and innovations developed by high-tech companies, colleges and universities, federal labs, and independent inventors and entrepreneurs. This special topics course will focus on how applications for new technologies are discovered, valuation of new technologies, marketing new technologies, structuring commercialization agreements, and implementation of those agreements. Strategies for commercializing intellectual property assets such as licensing, joint ventures, strategic alliances, acquisition/merger, and cooperative R&D will also be explored. No formal prerequisites. Intended as a joint graduate/undergraduate class.

Graduate Programs

We are also beginning to compare our MSIS program to the recently released MSIS 2006 model curriculum. Please note that we did not compare our MSIS curriculum to the MSIS 2006 model during this self-assessment because it was published in the last year (e.g., 2006) of the 2001-2006 time frame we are assessing. However, we are interested in performing this analysis, and its results. Figure 21 shows the new suggested components. Table 16 shows a first step in that direction.

IS Prerequisites (ISP)
IS Fundamentals
Programming, Data, Files, and Object Structures

Business Prerequisites (BP)
Financial Accounting
Customer-oriented Marketing
Organizational Behavior

Or:

Two course graduate sequence on integrated business functions and processes.

IS Technology (IST)
IT Infrastructure
Analysis, Modeling, and Design (including HCI and Data Management)*
Enterprise Models
Technologies and Issues
IS Management (ISM)
Project and Change Management
Strategy and Policy
Integrated Capstone
Implications of Digitization or HCI

Tracks (T)
4 courses in depth on a particular subject including, where possible, a practicum course in experience in industry

Figure 21: Model MSIS 2006 Curriculum (MSIS 2006 Model Curriculum and Guidelines for Graduate Degree Programs in Information Systems. *Communications of the AIS*, 17, p. 23, 2006.)

Course No.	Req. Core	Req. ISM	Req. ITM	Elec	Course Title	ISP	BP	IST	ISM	T
MSIS 527	X				Systems and Information Concepts in Organizations	X	X		X	
MSIS 537	X				Data Management 1			X		
MSIS 567	X				Data Communications					X
MSIS 647	X				Information Analysis			X		
MSIS 657	X				Systems Design			X		
MSIS 730	X				Information Systems Policy			X	X	
MBA 525		X	X		Marketing Foundations		X			
MBA 545			X		Accounting Foundations		X			
MBA 555		X	X		Management Foundations		X			
MBA 575		X	X		Finance Foundations		X			
MSIS 507			X		Computer Concepts and Software Systems	X				
MSIS 517			X		Web Technologies					X
MSIS 561			X		Data Communications Lab			X		
MSIS 557				X	Data Quality				X	X
MSIS 579				X	Wireless Communications					X
MSIS 591				X	Project Management				X	
MSIS 638				X	Business Intelligence					X

Table 16: Comparison of Course Requirements of MSIS Graduate per MSIS 2006 Model Curriculum and Required Coursework in Marist College MSIS

Faculty

While it is important to understand how Marist College's information systems programs relate to Marist's Mission and Vision, compare to independent standards, and are discussed by our exiting seniors and alumni, it is also important to note that our faculty are active in terms of research, service and teaching. We end this document by sharing with the reader activities recently completed or planned by each faculty person for the next year.

Craig Fisher will finish a second edition of the seminal text *Introduction to Information Quality*, and will rewrite the Instructor's guide for this book as well. He is teaching a module of an Information Quality seminar within the Massachusetts Institute of Technology Total Data Quality Management program in July. He will present a paper in Las Vegas on the History and Status of Undergraduate Education in Information Quality in September. He will participate on Panel for Data Quality education at the International Conference on Information Quality to be held in MIT in November. He will write a paper on a revolutionary way to compare accuracy of data sets using the Poisson Distribution. He also plans on beginning a paper about information quality.

Eitel Lauria will continue to work with Alan March (School of Medicine, Universidad del Salvador, Argentina) on text mining for automatic health care coding, has been presented/ accepted at AMCIS 2006 and IRMA 2007. We are currently working on a journal paper to provide a comprehensive perspective of our findings. He will continue to work with Peter Duchessi (U. Albany) and Leslie Wood (doctoral student, U. Albany) on data mining research applied to media and advertising ("Improvements to media data fusion through media variables hooks"). We expect to submit a paper in the near future. He has resumed his research with Giri Tayi (U. Albany) on data mining on intrusion detection. They plan to submit a journal paper shortly. He is working on quantitative models for Information Security Risk Analysis with Sanjay Goel (U. Albany). A journal paper will be submitted during 2007. He has written a technical report on Bayesian networks and information geometry that will be included in a book published by Springer-Verlag ("Innovations in Bayesian Networks: Theory and practice", D. Holmes (Ed.), Springer-Verlag , to appear in 2007). He is working on a positioning paper on the nature of information and informing together with Sal Belardo (U. Albany). He is working with Sal Belardo and and Yasha Crnkovic (U. Albany) on some ideas linking ethics and trust to corporate performance. We have completed a first round of data collection. We expect to develop a dependency model using a Bayesian approach to structural equation modeling. He is working with Beate Klingenberg (Marist / SOM) on research related to Global Dimensions of Technology Management. Their recent paper has been accepted at the PICMET 2007 conference. They plan to submit to a journal in the near future.

Anne Matheus is focusing on defending her dissertation proposal "Examining the factors associated with Information Quality on the WWW leadership in technology" and is writing a case study looking at the role of technology managers as they develop a leadership role.

Nora Misiolek has been asked and agreed to serve as a dissertation committee member for Yeliz Eseryel in the School of Information Studies at Syracuse University.

She also is and will be a reviewer for *MIS Quarterly*, the International Conference of Information Systems (ICIS), and three divisions of the Academy of Management. At the 2007 Academy of Management Meeting she is attending the Organizational Communications and Information Systems Junior Faculty consortium, facilitating a paper session on social capital benefits of organizational learning, and presenting the paper: A Multi-method Analysis of Patterns of Emergent Leadership in Virtual Teams. She is also presenting the paper "A Structuration Perspective on Leadership in Virtual Teams" at the International Federation of Information Processing Working Group 8.2/9.5 Working Conference on Virtuality and Virtualization. She anticipates presenting two papers at ICIS 2007 as well as one at the Hawaii International Conference on Systems Sciences 2008.

Russ Robbins with Ken Fleischmann of the University of Maryland-College Park and with Al Wallace of Rensselaer Polytechnic Institute, has received a three institution, multi-year collaborative grant from the National Science Foundation Ethics Education in Science and Engineering program to support the development, assessment, and dissemination of an educational simulation for computing and information ethics and a complementary innovative course that focuses on the role of values and ethics in computing and information within a global society. He co-leads an annual Americas Conference on Information Systems mini-track entitled "Human Characteristics, Ethics, and the Decision Environment" with a colleague at Auburn University (Dianne Hall) and has an invited paper related to this new research stream. He currently has a book chapter "Computing and Information Ethics Education Research" to be published in 2008 within the *Handbook of Research on Technoethics*. He has several journal manuscripts in process, which focus upon studying the efficacy of ethical decision support, how computational models can be used for virtual experiments about ethics, and papers that report how the ethical problem solving process occurs in individuals (cognitively) and groups (behaviorally) as well as the computational models that mimic these processes. He plans to present work in progress at the pre-International Conference for Information Systems workshops for the Association for Information Systems Special Interest Group for Decision Support Systems as well as the International Federation for Information Processing Working Group 8.2 Organizations and Society in Information Systems.

Appendix A: Results from Senior Exit Surveys

Question 1 & 2:
Name 3 things about the IS Program that you liked; or were the most Beneficial:

2002: 19 Students	2004: 14 students	2005: 9 students	2006: 12 students
CURRICULUM Mix of CS, IS and Business……..7 Avail of minors……..2 Having the same prof in consecutive classes…….....1 **PROFESSORS** Prof knowledge……4 Prof Availability……..…2 **COURSES** Data Quality…….……....6 Project……...…3 Policy……1 Seminar course……..1 Real world business examples……..….2	**CURRICULUM** Mix of CS, IS and Business……9 Ability to get minors…….....1 CORE…….……1 **PROFESSORS** Good teachers with real world experience & helpful……..….5 **COURSES** IS Project gave real world exp…….……3 VB class……..……....1 D Comm Lab……..…...1 e-Learning……..…1 Theory…….…….…..1 Software Variety……....1 Variety of pkgs……..….1 **THINKING/SKILLS** Problem Solving Skills……..……1 Presentations…...……...1 Conceptual and abstract ideas……..….1	**CURRICULUM** Diversity of courses…….…3 Combined Tech & Bus perspectives…….…3 Business Orientation.....3 Bus. Strategy……..…...1 IS Success stories……..…1 Some technology…….. 1 Courses relate to each other……...1 **PROFESSORS** Profs experience…..……6 Passionate profs……..…2 Profs availability……1 **COURSES** Group/IS Projects…….…..3 Evening courses……..1 Hands on…….2 Lab availability..……....1 Group Discussions…….…...….1 Policy……..……1 Data Analysis……1 Class size……1 Practical applications…….2	**CURRICULUM** Mix of CS, IS and Business……..…7 Overall Curriculum……..…2 Integrated CS/IS/IT first year……..…..2 Ability to switch between CS-IS-IT……....…..2 Timing/Seq classes……..…….1 **PROFESSORS** Profs experience..……...6 Profs Availability & help…….……..…..….5 **COURSES** Real Projects…….……6 Policy ……..……..…..4 Labs……..……4 Analysis..…….…….....2 Design…….……..2 BI……..……2 DQ…….…….…..2 DM/DB…….…2 **THINKING/SKILLS** Critical Thinking……...4 Systems Thinking…….…3 Managerial Skills……...3

Question 3 & 4: What should IS do better? What changes?

2002	2004	2005	2006
CURRICULUM Less programming……..3 More availability of packages/tools ……...3 . Seminar course should be optional ……..…2 Less redundancy between classes…….…...2 Require Internships…..…….2 More real world scenarios on tests……..….2 More hands on labs……..….1 More variety availability of courses ……..1 Offer concentrations like db, ethics…….….1 **COURSES** More Case Studies…….……1 More executive Simulation Projects *(like GamePlan*)……1 Update material……...1 **GENERAL/MISC.** Less Adjuncts……..2 Lab availability ……..1 More Visitors form Bus to give guest lectures……..1 Course offerings inconvenient for adult students…….…..1	**CURRICULUM** Network/Web/IT…….6 More Hands On ……..5 More real world proj ….……5 More courses like Policy……4 More H/W courses……..2 More S/W courses……...1 Less redundant cls ……..1 Variety of courses……..1 Avail of courses……..…1 More CS courses……..…1 **COURSES** Mand. DM/DC Labs……...1 **GENERAL/MISC.** More Guest Lectures from industry……3	**CURRICULUM** More electives……6 More Technology……...4 Drop Java……2 Combine SA & D……...1 More options for the business courses……..1 **COURSES** More Group Proj ……1 More Online Classes.……..1 Teach more VB…..……1 More Lab time during class…….……1 **GENERAL/MISC.** Never force a student to take online course…….. …1 Consistency in pedagogy…1 Fewer adjuncts or better screening of them…..……1 Avail courses……..…1	**CURRICULUM** More IT/Web……3 DC Lab to 3 cr……..3 More IT Tools……..…2 UNIX for IS……..2 Separate JAVA sec for those with and those without JAVA experience……..2 Combine IS and IT……..…1 More Business Courses Clarify CS-IS-IT to Freshmen…1 Drop Discrete Math……1 More integration……..…1 Require Internships……1 More Hands-on…..……1 **COURSES** Update Arch HW/SW……..…2 Update Design Course.…….….1 More languages……..…1 More electives……1 Make it easier to get internships…….…1 **GENERAL/MISC.** More Group Work……..…3 More A/V in class…….……..3 Re-evaluate Pre-Reqs……..…1 Less focus on IBM……..…1 Hire more DC teachers……..…..1 Less Broad/More spec……..…1 More Real World focus.…..……1

QUESTION 5: <u>Do you have a job? How did Marist Help?</u>

2002	2004	2005	2006
YES…….....4 People skills…….….1 Req-ments analysis….2 Problem Solving…….2 Programming……..1 Data Quality……1 Project Mgmnt. ...…..1 _____ **No**, Still looking …...3 Not looking ……..…1	**YES……..……..9** Multi-tasking jobs.…..…1 Project Mgmt…..…..…1 Prepared me for changes…….…..…1 Tech Skills……..2 Group / Team work……1 Critical Thinking…….....2 Programming……..……1 Sys Analysis Skills…….1 _____ **No**, Still looking…….5	**YES…….…..7** learned prog skills…… 1 learned role of IS……...1 group dynamics……1 DB/SQL knowledge……. 1 Business overview of jobs…….1 Learned mgmt meth…….. 1 New technology…… 1 Critical thinking…….1 Better communicator……. 1 _____ **No**, Still looking ……2	**YES……..5** Critical Thinking……..3 Teamwork Skills……...2 Communication Skills…...2 Class Discussions……..1 Projects……..1 Broad knowledge……..….1 Systems Mgmt……..…...1 Programming……..……1 _____ **No**, Still looking…….5

Appendix B: Results from MSIS Exit Surveys

QUESTION 1 & 2: Name 3 things about the IS Program that you liked; or were the most Beneficial

Spring 2006: 11 Students

CURRICULUM

Relates to my career……..1
Business courses (& business concepts in IS courses) ……. 2
Study current developments in IT and IS…… 3
Cross Discipline IS and Business …….. 4
Good amount of knowledge conveyed in classes ……4

PROFESSORS

Quality of faculty …… 4
Treated students with respect…… 1
Diversity of Faculty …… 1
Passion of Prof …….1
Only liked 2 profs (did not like 2 others) …….1
Faculty availability …….1

COURSES

Internships…….1
Information Analysis …….2
Architecture of HW/SW …….1
Database management …….1
IS Policy …….2
Systems Design
Class size …….2

GENERAL

Experience of students shared / interactions w/profs. …….5
Group discussions/Group Activities ……. 4
I was able to apply things I learned in all classes to my job …….3
Critical Thinking in Policy …….2
Online Classes …….1
Flexibility …….3
CIO simulation …….1
Projects throughout all classes
Leadership/Management skills learned……. 3
Knowledge IT and its importance…….1
Texts too expensive…….1

QUESTION 3 & 4: What should IS do better? What Changes?

2006:

CURRICULUM

Too much repetition……..1

More hands-on in business ……..2
/ and technology ……..3

Business class availability……..1

COURSES

More technical classes needed …… 3

Add a course on Leadership……..1

Require a Project Management Course……..1

Elective on Vendor Management……..1

Electives in database field……..1

GENERAL/MISC.

More Executive simulations like done in IS Policy…… 3

Communicate availability of courses……2

Better availability/flexibility of classes…… 2

More Daytime classes……2

Develop better roadmaps of courses/curriculum
Consider giving certifications.……1

Demand more of Grad students in Dual listed courses……..1

Work on getting better teachers.……..1

Create IS Community.……1

Even more practical cases/hands-on……1

Even more interaction with professors and students……1

More focus on managing groups ……1

Less Papers, More projects……1

Use Guest speakers more…..……1

Coordinate with other teachers using the same book ……..1

(1 syllabus required chapters that were just done in the last course)

ONLINE

More Training on e-Learning ……..2

Do not put Hands-on in online classes……1

More feedback needed in online classes.……1

Question 5: Do you have a job? How did Marist Help?

YES……9

Company

Morgan Stanley ……..……. 1

IBM……..…… 4

The Hotchiss School ……..…….. 1

Travelers …….……. 1

AIC ……..……. 1

Spectrum Graphics……1

Job title

Product Manager …….……1

Engineering Tech …….…….. 1

Project Manager…….…….. 2

Software Engineer…….….. 2

IT leadership program…… 1

Web Marketing Project Manager …… 1

ITS Manager…… 1

MSIS HELPED on job or get job….

Critical Questions/Systems Thinking Skills……1

Leadership Skills improved……1

Requirements and alternatives in Systems Analysis……2

Provided technical background to communicate within my org and users ……2

Business knowledge gained important for IS/IT professionals….2

Gave me confidence to take on more responsibilities…..1

More well Rounded.….2

Presentation skills ……1

Internships ……1

Design importance ……1

Can apply what I learned……1

_____

No -2

Appendix C: Undergraduate Information Technology and Systems Course Descriptions

ITS 110; Computing Studies Seminar
COURSE COORDINATOR: Prof. Helen Hayes
One Credit LA
The seminar consists of a series of lectures covering topics in computing and information processing. The topics will provide the student with a broad perspective of the field. Lectures will be given on state-of-the-art topics by faculty actively involved in the area. The topics will include computer viruses, ethics, parallel processing, neural networks, artificial intelligence, web applications, Distributed Systems, Decision Support Systems, Management Information Systems, Information Quality, etc. Offered every Fall.

ITS 130; Information Technology and Systems Concepts
COURSE COORDINATOR: Prof. Anne Matheus
Three Credits LA
This course establishes a foundation for the understanding of information systems in organizations. Applications and technologies are studied in relation to organization objectives. The student studies different types of systems such as MIS, DSS, EIS and basic applications such as Manufacturing, Finance, and Marketing. The student studies an overview of technology including hardware, software, Internet, World Wide Web, E-Commerce, database and objects. Offered every semester.

ITS 236; Problem Solving and Programming in Business
COURSE COORDINATOR: Dr. Craig Fisher
Three Credits LA
This course develops problem-solving and programming skills in the area of business and organizations. Students will enhance their application programming knowledge and skills by working on business-programming problems in a current programming language such as Visual Basic. Offered every Fall.
Prerequisites: CMSC 120, IS 130

ITS 300 Management Information Systems Course Description
COURSE COORDINATOR: Dr. Nora Misiolek
Three Credits LA
This is an introductory course in management information systems designed for junior-level undergraduate students in the School of Management. The course focuses on non-technical aspects of the implementation and use of information technologies in business environments. Topics covered include organizational implementation of information technologies, eCommerce, information security, knowledge management, business intelligence, database management, and methodologies for assessing and evaluating the business impact of information technologies. Registration is restricted to junior-level students enrolled in the School of Management.

ITS 321; The Architecture of Hardware and Software
COURSE COORDINATOR: Dr. Jan Harrington
Three Credits LA
This course introduces computer architecture, data representation, machine and assembly language, the fetch-execute cycle, and operating systems. It gives students a solid background in the hardware and software technologies that support business information systems. The course emphasizes the relationships between hardware and systems software, emphasizing the support that hardware provides for today's multitasking/ multiuser operating systems. Offered every semester.
Prerequisite: CMSC 121

ITS 395-396-397-398-399; Internship in Information Systems
COURSE COORDINATOR: Prof. Anne Matheus
One-Two-Three-Six-Nine Credits
The internship is a professionally oriented experience in the information-systems field. Arrangements are made with the Internship Director. Offered every semester.
Prerequisites: Junior/Senior standing in IS with a minimum cumulative GPA of 2.5.
Note: Internships carry elective credit and may not be used to fulfill the requirements of the major.

IS 404; Systems Analysis Methods (Not to be offered after Fall 2006.)
COURSE COORDINATOR: Dr. Russ Robbins
Three Credits LA
This course provides an overview of the systems-development life cycle, with emphasis on the earlier phases. Students will employ graphical tools and other modeling tools. Students will become proficient in at least one current analysis method and will be exposed to several others, including Object Oriented Analysis, and Prototyping.
This course takes a problem solving approach that covers only the systems Analysis part of the life cycle. Offered every fall.
Prerequisites: CMSC 120, IS 130

ITS 406; Data Communications
COURSE COORDINATOR: Prof. Anne Matheus
Three Credits LA
This course examines the concepts and mechanisms of data-transport systems, including information in the form of data, voice, and image. Network architecture, terminology, control and general topologies will be discussed. Current equipment and physical interconnection will be explored in an applied model incorporating a range of network services to support application development, distributed processing, information centers, and distance learning. Emphasis is placed on the impact of data communications technology on organizations and on the design of future information systems. Offered every semester.
Prerequisite: IS 130

IS 407; Laboratory for Data Communications (Not to be offered after Spring 2007.)
COURSE COORDINATOR: Prof. Anne Matheus
One Credit

This lab will provide students with hands-on experience in setting up, configuring, and trouble-shooting networks. Offered every spring.
Co-requisite: IS 406

ITS 408; Data Management
COURSE COORDINATOR: Dr. Eitel Lauria
Three Credits LA
This course is an in-depth study of the design and implementation of client/server data-management systems in business. Students will study data modeling (the relational and object-oriented data models), database query languages, multiuser database concerns such as concurrency control and recovery, and organizational issues (for example, database security and database administration) that arise in a database environment. The course has a significant hands-on component, including a database design and implementation project using client/server database application development software. Offered every semester.
Prerequisites: CMSC 120, IS 130

IS 409; Laboratory for Data Management (Not to be offered after Spring 2007.)
COURSE COORDINATOR: Dr. Eitel Lauria
One Credit
This lab will provide students with hands-on experience in developing and maintaining databases and database applications using current database technology and tools.
The course will also extend students' knowledge of the SQL data manipulation language.
Offered every semester.
Co-requisite: IS 408 or MSCS 537

ITS 418; Business Intelligence (previously Data Management 2)
COURSE COORDINATOR: Dr. Eitel Lauria
Three Credits LA
Data Management II extends the theory and practice of database systems introduced in Data Management I in two ways. First, it provides students with experience in the design and development of very large database systems. Second, it provides an opportunity for the exploration of emerging trends in database management. The theoretical material in this course changes as the field of data management changes. However, in the past major themes have included reengineering, object-oriented database systems, and database driven web sites. Offered every spring.
Prerequisite: IS 408, IS 461, or permission of the instructor

ITS 428; Data Quality in Information Systems
COURSE COORDINATOR: Dr. Craig Fisher
Three Credits
Students will explore and understand data and information quality problems in information systems, databases, and data warehouses. The student will be able to recognize and use DQ and IQ concepts in information systems; e.g., recognize patterns of data and design deficiencies in systems; suggest appropriate DQ and IQ improvement plans; perform information quality assessments of organizations; apply data cleansing techniques to data warehouses and experience the influence of data quality indicators on

decision making. A combination of state-of-the-art literature and hands-on projects will be studied.
Prerequisite: IS 408

ITS 430: Systems Analysis and Design
COURSE COORDINATOR: Dr. Russ Robbins
(insert description)

IS 452; Decision Support Systems
COURSE COORDINATOR: Dr. Eitel Lauria
Three Credits LA
This course covers the analysis, design, and development of highly complex, individually tailored tools for the solution of specific management problems. The concepts of modeling as a problem-solving technique, model formulation, and tools for modeling will be covered.
Prerequisite: IS 404

IS 461; Systems Design Methods (Not to be offered after Fall 2007.)
COURSE COORDINATOR: Dr. Russ Robbins
Three Credits LA
This course integrates the areas of computer technology, systems analysis, system design, human computer interface, and organizational behavior to aid the student in designing large-scale applications and decision support systems. Modern technologies (e.g., object oriented, client-server) are emphasized. Design and implementation principles are studied. Offered every Spring.
Prerequisites: CMSC 121, IS 404, IS 408

ITS 471; Advanced Topics in Information Systems
Three Credits LA
This course in advanced topics will provide a more complete view of IS by studying topics of an advanced nature not covered in depth in the IS courses. Major topics to be covered could include, but are not limited to, Information Resource Management, Advanced Database Management, Expert Systems in Business, Information Quality, and Advanced Systems Development. New and innovative topics may also be covered, such as Object Oriented Paradigm, Reengineering and Rightsizing, Outsourcing, new technologies/tasks, IS issues and trends in industry, IS Research, Client/Server, and End-User computing.
Prerequisite: IS 404, 408

ITS 477; Information Systems Policy
COURSE COORDINATOR: Dr. Craig Fisher
Three Credits LA
This course is the capping experience in IS. The course integrates information systems, related field requirements and core studies. Students in this course will study how information systems function to support the overall operations, policies, and objectives of

organizations. Critical thinking, case studies and a major research paper are all required elements of the course. Offered Spring semester.
Prerequisites: IS 461, IS 492 and senior standing

ITS 492; Information Systems Project
COURSE COORDINATOR: Dr. Russ Robbins
Three Credits LA
Students in this course will work individually or in small teams to develop the solution to a problem for a real client, and work towards the implementation of the solution. The systems development life cycle approach-analysis and design, and project management tools and techniques will be utilized to explicitly define, monitor, and control project tasks. Offered every Fall.
Prerequisite: IS 461; Co-requisite for the IS Analysis and Design Certificate

IS 495-496-497-498-499; Advanced Internship in Information Systems
COURSE COORDINATOR: Prof. Anne Matheus
One-Two-Three-Six-Nine Credits
The advanced internship is a professionally oriented assignment for students with prior internship experience in the information-systems field or for students enrolled in the 5-year BS/MS in IS program. Arrangements are made with the Internship Director during the previous semester. Offered every semester.
Prerequisites: Junior/Senior standing in IS with a minimum cumulative GPA of 2.5.
Note: Internship elective credit may not be used to fulfill the requirements of the major.

Appendix D: Master of Science in Information Systems Course Descriptions

MSIS 500; Fundamentals of Object-Oriented Programming
Three Credits
The purpose of this course is to introduce the student to programming in an object-oriented programming environment. The student will study the object-oriented programming paradigm and develop programs using an object oriented programming language. Abstraction, encapsulation, inheritance, and polymorphism
will be covered. Students will also be introduced to the concept of an abstract data type (such as a stack or queue) and their implementations. Programming projects will be assigned throughout the semester.
Prerequisite: Graduate standing in either the Information Systems or the Software Development program. No previous programming experience is required.

MSIS 507; Computer Concepts and Software Systems
Three Credits
An introduction to the functional organization of computer systems including both hardware and software components. The role of operating systems in directing and controlling the different systems resources is examined in detail. Computer terminology, physical computer implementations, and the operating environment for application programs are discussed.

MSIS 517; Web Technologies
Three Credits
This course gives students a chance to gain experience with many of the technologies which drive the World-Wide Web. While the web began as a collection of static, linked documents, it has evolved to include robust applications which deliver dynamic content, and rich, interactive experiences. Students will be introduced to various cutting- edge technologies and have projects assigned for each.
Prerequisite: MSIS 500 Fundamentals of Object-Oriented Programming (C++) OR its equivalent.

MSIS 527; Systems and Information Concepts in Organizations
Three Credits
An identification and basic exploration of the systems point of view, the organization of a system, information flows, and the nature of information systems in organizations. The relation between systems and information to organizational objectives is examined. Functional information systems are explored including marketing, manufacturing, and finance. The distinction is made between management information systems and decision support systems. Team exercises and multiple case problems are used.
Prerequisite: Graduate IS standing.

MSIS 537; Data Management 1
Three Credits
A study of the critical issues related to managing data in organizations. The concept of data as a resource, the data environment, the database approach, and the need for data modeling are examined in detail. The growing use of database management systems in managing data is discussed. The data administration function, its relevance in evolving organizations, and emerging issues are also addressed.
Prerequisite: MSIS 527 Systems and Information Concepts in Organizations.

MSIS 557; Data Quality in Information Systems
Three Credits
This course will help the students explore and understand data and information quality (DQ and IQ) problems in information systems, databases, and data warehouses. The student will be able to recognize and use DQ and IQ concepts in information systems projects: e.g., recognize patterns of data and design deficiencies in systems; suggest appropriate DQ and IQ improvement plans in light of known deficiencies; perform information quality assessments of organizations; apply data cleansing techniques to data warehouses, and experience the influence of data quality indicators on decision making. A combination of state-of-the-art literature and hands-on projects will be studied.
Prerequisite: MSIS 537 Data Management

MSIS 561; Laboratory for Data Management (Not to be offered after Spring 2007.)
COURSE COORDINATOR: Dr. Eitel Lauria
One Credit
This lab will provide students with hands-on experience in developing and maintaining databases and database applications using current database technology and tools.
The course will also extend students' knowledge of the SQL data manipulation language.
Co-requisite: MSIS 537 Data Management 1

MSIS 567; Data Communications
Three Credits
This course examines the concepts and mechanisms of data transport systems including information in the form of data, voice, and image. Network architecture, terminology, control, and general topologies are discussed. Current equipment and physical interconnection are explored in an applied model incorporating a range of network services to support application development, distributed processing, information centers, and distance learning. Emphasis is placed on the impact of data communications technology on organizations and on the design of future information systems.
Prerequisite: MSIS 527 Systems and Information Concepts in Organizations.

MSIS 637; Decision Support Systems
Three Credits
A study of support systems for decision making in complex, technologically rich environments. The focus is on decision theory principles, problem identification, model formulation, and solution procedures. The distinction between decision support systems

and transactional modes of processing information is examined. Sample quantitative and qualitative tools will be employed to study the behavioral aspects of decision making in a decision support environment. At least one expert system will be examined or developed. Neural networks are discussed.
Prerequisites: MSIS 537 Data Management; MATH 130 Intro to Statistics.

MSIS 647; Information Analysis
Three Credits
An examination of the strategies for developing information systems, including a study of the systems development life cycle for managing application development. Group dynamics and individual behavior in the development process are explored. Techniques for eliciting information requirements, methods for analyzing requirements, and the development of a general logical design are examined and employed in a major team exercise using real clients or an online case study.
Prerequisites: MSIS 527 Systems and Information Concepts in Organizations; MSIS 537 Data Management.

MSIS 657; Systems Design
Three Credits
A rigorous study of the development of an information system including specification, design, implementation, and testing. Both managerial and technological aspects of systems design and implementation are considered. The process of planning for change, audits, and post-implementation reviews are considered. Emphasis is on a total systems solution rather than software alone. Team projects help the student acquire the knowledge and skills required to develop a physical design and implement an operational system from a logical design.
Prerequisite: MSIS 647 Information Analysis.

MSIS638; Business Intelligence
Three Credits
This course aims to introduce the emerging information technologies for management support through business intelligence systems. On completion of this course, students should be able to: a) recognize the need for management support and business intelligence requirements beyond typical management information systems; b) understand the application of various information technologies for business intelligence that support transformation and analysis of massive amounts of transaction data; c) formulate and analyze the requirements for management support, and identify appropriate tools and techniques required for implementation of business intelligence systems (DW, OLAP, data mining).
Prerequisite: MSIS 527 Systems and Information Concepts in Organizations. MSIS 537 Data Management.

MSIS 730; Information Systems Policy
Three Credits
This course builds on previous courses in the IS program and is integrative in nature. It provides closure on the multitude of diverse subjects found in the program. Taught in

seminar style, the critical thinking of students related to current and strategic issues in information management is thoroughly examined. The executive perspective is demanded thus forcing all students to analyze, synthesize and respond at the highest organization level. Entrepreneurial views are valued and encouraged. Emphasis is placed on the overall information needs of an organization and what role information systems play in meeting those needs. Students explore critical issues relating to managing and administrating the information systems function. Alternative structures for matching an information systems department to the structure and behavior of an organization are examined. The information center, decision support center, end-user computing, and other concepts emerging from the evolution of information technology are discussed. A major research paper based on a thorough literature search of primary sources in information systems and related fields is required of each student. Students are required to present their research papers at a Marist sponsored conference that is open to the public. Prerequisites: Completion of MSIS 517, MSIS 567, MSIS 637, and MSIS 657.

Appendix E: Master of Science in Technology Management Course Descriptions

Core Courses

MSTM 601; Leadership and Organizational Behavior
Three Credits
This course examines management and leadership in technology organizations in both theory and practice. Traditional and modern theories of leadership and organizational behavior, as well as practical application of these theories in the workplace are explored. The course also examines aspects of power and influence of leaders in organizations. The course assists students in examining his/her leadership style and assists in the development of a plan to improve skills in desired areas relevant to managing technology.

MSTM 625; Marketing Foundations for Technology Managers
Three Credits
Managers of technology driven firms are facing competition from every corner of the globe. Constantly evolving lines of competitive products, new technologies and new regulations are commonplace. In this competitive environment where product life cycles are short, managers of technology driven firms must develop and implement successful marketing strategies. This course, specifically designed for managers of technology-based companies, will provide the knowledge and skills to develop and implement highly effective strategic marketing strategies. Course lectures, case studies and discussion sessions integrate the concepts and principles. Primary focus is on issues facing corporations in technology intensive industries.

MSTM640; Analyzing the Corporate Financial Environment of Technology-Driven Companies
Three Credits
This course will provide the students with the knowledge to analyze the corporate financial environment of technology firms as well as the financial impact of implementing and applying technology throughout the value chain. They will be introduced to the relevant tools to analyze financial statements, as well as to the means of making financial decisions regarding raising capital and dividend policy. The instructors will use technology companies as the lecture examples and will also point out the specific needs and requirements of technology firms. Given that technology firms are often in a stage of rapid growth, the specific corporate financial environment of this stage will be analyzed. Especially, liquidity management will be stressed. In addition, the students will apply what they are learning to their own company. Students will, throughout the course, present their findings to the class. This will allow them to see the wide variety of reporting formats and differing financial circumstances of these firms.
We will examine these topics from multiple viewpoints, and emphasize the importance of thinking, analyzing, and applying the concepts rather than memorizing descriptive material. This course will therefore be conducted in a lecture/discussion format. Class participation is desired and expected. The material to be learned for the exams will come from the lecture material, the course textbook and class discussions.

MSTM 603; Systems and Information Concepts in Organizations
Three Credits
This is a course concerned with the organization and its environment as a super system and hence all other systems are sub-systems within the super system. The reciprocal effects of organization and technology are stressed to develop fundamental understanding of the impacts and demands of new technologies on organizations. Systems theory is used to develop the systems approach to problem solving in large global organizations. Several case studies covering such topics as value chain management, enterprise resource planning and competitive advantage are analyzed to further develop the skills and knowledge of the systems approach. MIS literacy is developed to build an adequate foundation for subsequent coursework in other areas. Most of all, this is a course in problem solving in using Information Technology in Organizations.

MSTM 613; Information Systems Policy
Three Credits
This is a course that investigates the Fundamental Issues that the CIO manages in order to perform his/her functions in a way that leads to success of the firm. Emphasis is placed on investigating the knowledge, skills and abilities required to become a CIO. The course covers many of the current issues that executives face in making IT and IS decisions. The diverse topics include mission of IS/IT, new roles for IS/IT, CIO responsibilities, strategic uses of information technology, seven planning techniques for introducing new technology, distributed technology strategies for global corporations, outsourcing, managing information resources and staff, and new approaches to developing systems, and transitioning from legacy systems.

MSTM 623; Decision Making Tools for the Technology Manager
Three Credits
Decision Support Systems (DSS) were first developed in the 1970s to provide decision makers with computer-based tools for semi- and unstructured decision-making tasks. The emphasis is on helping managers make better decisions. Decision-makers are increasingly overwhelmed by the number of decisions, the amount of data available and the necessary speed of decision making, to help make these decisions. Their success depends on their ability to extract business value from the raw data their organization collects. This course focuses on the application of management science and data-driven decision making tools to assist human decision-making processes. Throughout the course students are encouraged to think critically about how we make decisions, and to learn how to avoid common errors of judgment that occur because of faulty intuition and biased mental models.

Strategic Technology Management Track

MSTM 765; Managing Technology Operations and Projects
Three Credits
Managing Technology Operations and Projects is intended to provide the student with an insight into operations processes, systems functions and projects of technology-driven organizations. The emphasis is placed on efficient use of available, modern technologies in operations management and its efficient implementation and application. This insight will be based on foundational concepts, analytic methods and their applications, such as process and system analysis. Techniques learned in the course "Decision-making tools for Technology Managers" are integrated and applied to decision-making in operations management. Additionally, this course provides the theoretical base as well as practical business application to enable technology management professionals to manage projects successfully An integrative approach emphasizes technical as well as communications and leadership skills necessary to accomplish value and customer satisfaction in project management (PM). Planning, scheduling and controlling techniques as well as systems methodologies are introduced and applied using commercial PM software solutions to case studies and business situations evolving around technology implementation projects. The analysis of these business scenarios also addresses management of resource constraints, planning, negotiation and integration of outside partners into projects, as well project risk assessment. Innovative and creative problem solving skills are developed and practiced throughout the course.

MSTM 754; Managing Organizational Change
Three Credits
This course covers the theory and practices of improving organizational effectiveness through planned, systematic intervention. Change management—the visualization, planning, and implementation of transitions throughout the organization or business unit—is fast becoming a key source of competitive advantage. The course will provide the theory and practice of change management and strategic planning including organizational development and organizational transformation.

MSTM 715; Economics for the Technology Manager
Three Credits
This course is designed to provide the student with a basic understanding of economic theories, concepts, and issues as they relate to management in the technology environment. The initial part of the course will focus on familiarizing the student with standard economic concepts as a foundation for applications to high-tech industries and the new economy. Microeconomic material will cover the structure of an economy, with particular emphasis on how markets operate. Attention will also be directed to understanding the market behavior of consumers and firms (producers). Macroeconomic concepts, theories, and issues will be covered in the context of the aggregate economy in the United States: how consumers and producers, together with the government and the international sector, interact as a whole. Macroeconomics measures (such as GDP, interest rates, exchange rates, unemployment, inflation, and the business cycle) will be

explored in relation to management decisions in a technology environment. After covering the traditional economic concepts, the course will also focus on economic concepts and issues that are specifically relevant to Technology Operations.

MSTM 801; Technology Management for Competitive Advantage: Capstone Experience I

Three Credits

This course is designed to enable students to analyze business situations from the point of view of the practicing technology manager. Technology managers have responsibility for making strategic decisions that affect the company across the enterprise. The key tasks involved in technology management include the detection of and adaptation to environmental change, the procurement and allocation of critical resources, the integration of activities across the organization, and the alignment of technology strategy and activity with the firm's vision.

Students will combine knowledge from other courses with information presented here to develop sophisticated interpretations and analyses of actual business problems and opportunities involving technology and strategy.

MSTM 802. Technology Management for Competitive Advantage: Capstone Experience II

Three Credits

This course provides students with an opportunity to prepare and present an integrated technology-focused field project using the concepts, topics and methods learned during the program and integrated in the preceding capstone experience. Emphasis is on the full development, analysis and proposed resolution of an ongoing technological issue or concern of prime importance to an organization.

This course has two primary activities. One, a team assignment involves developing a technology project for an organization. The team conducts a preliminary feasibility study, the project management plan (including a description and analysis of resources), risk assessment, cost analysis benefit, a systems development or adoption plan, ending with a professional report and presentation at the end of class.

The second is an individual endeavor to create a strategic plan for implementing a project or change in the student's organization.

Information Technology and Systems Management Track

MSTM 710; Managing Information Resources in a Network Economy

Three Credits

During the 1990s, information technology was the tail that wagged the dog. Post Y2K and the dot com bubble, it is now essential that managing information technology means getting a return on investment. This course will provide the student with the opportunity to blend technical skills with business acumen. IT does matter; IT exists to support core business values. It is essential to bridge the gap between IT and business, getting the two sides of the organization to talk to each other; and leveraging IT to automate and improve business processes. Innovative usage of information technology and telecommunications has allowed some industry players to enter, create, or restructure entire industries.

Successfully competing in the information economy requires an understanding of how IT relates to the overall business strategy of the organization. This course is a combination of lectures and a high degree of case analysis and discussion. Students will be expected to analyze the critical issues in a series of management cases and be prepared to discuss their analyses and recommendations.

MSTM 720; Enterprise Information Modeling
Three Credits
This course prepares students to effectively model, manage and participate in the development of information technology applications in support of business processes. The course focuses on modern systems analysis and modeling techniques for transforming user needs into IT driven applications. Students will learn elements of the object oriented approach seen from both a managerial and a technical perspective. The Unified Modeling Language and the Unified Process will be introduced as part of the course.

MSTM 730; Data and Information Quality for the Information Executive
Three Credits
This course is an executive overview of data and information quality (DQ and IQ) problems in organizational information systems and exploration of approaches to correct such problems. Approaches to correcting the problems within organizations include Total Data Quality Management, treating Information as a Product (IP), building IP-MAPS, judicious application of Control Processes and statistics, Measurement, Information Quality Assessments (IQA), Methods to analyze integrity of databases (IA), record-matching, and Quality Function Deployment (QFD). A study of the 16 dimensions of data quality that have potential deficiencies and their interactions, directly or inversely, with others, and dependent upon the varied uses of the data.
The student will study current journal articles that discuss the theoretical tenets of this emerging field of study. A combination of state of the art literature review, in-depth discussions and hands-on projects will be used to develop knowledge and ability to meet objectives.

MSTM 811; Information Technology Management for Competitive Advantage: Capstone Experience I
Three Credits
This course is the first of two sequential capstone courses that students in the MSTM program and the ISTM track will use to develop new skills and integrate and practice skills learned previously in the program. The course provides an integrated view of the organization from an external and internal perspective. This course will familiarize students with concepts and techniques for aligning enterprise information architectures to organizational goals and objectives. A primary learning technique applied during this course is a semester long team project.

MSTM812; Information Technology Management for Competitive Advantage: Capstone Experience II
Three Credits
This course is the second of two sequential capstone courses that students in the MSTM program and the ISTM track will use to develop new skills and integrate and practice skills learned previously in the program. The course enables students to focus on how projects contribute to the strategic goals of the organization, selecting projects that best support the strategy of a particular organization and that in turn can be supported by the technical and managerial processes made available by the organization to bring projects to completion. Managing projects within an organizational context includes the processes related to initiating, planning, executing, controlling, reporting and closing a project. Another aspect of project management includes: managing the changes in organizations resulting from introducing or revising information systems. A primary learning technique applied during this course is a semester long team project.

International Component

MSTM 800; Global Aspects of Technology Management
Three Credits
Students spend a week in an international residency. Dealing with technological changes across international markets and amidst global developments, virtual organizations, and management across cultures are the primary focus. Corporate site visits are combined with presentations by professors from non-USA universities and presentations by relevant practitioners.

Appendix F: Undergraduate Student Projects (2002-2006)

Children's Services Council
Recorded all accounting information and calculations by hand but needed to track expenditures of each individual contact agency. Software packages were investigated and evaluated and one package was recommended and installed which could run on the current environment. Training and a training manual were provided as well.

Best Friends Auto Repair
Growing repair business encumbered by paperwork being generated, this slows down the repair and customer service part of the business. Developed a database to organize and track patron maintenance and repair histories. Access was used for the database. Hardware recommendations were made and implemented. Training and a training manual were completed.

M & J Lumber
Redevelopment of forms used in everyday transactions. These had to meet the requirements of using QuickBooks. A company website was also developed.

Marist Abroad Program
This is Marist's educational facility for students studying overseas. The application process is a manual one. They wanted the application accessible online. Therefore, anyone not on the Marist campus could apply by downloading the application, filling it out and mailing it to the Program. Looking to implement the application process by directly submitting it to the Marist Abroad website.

Office of Housing and Residential Life
The problem with the housing office was that they did not have access to the maintenance database which records problems and requests for maintenance. The application used by maintenance is MP2. The implemented system will allow housing to see how many of the maintenance requests are called in by students or housing faculty, the date reported, the data completed, cost of repairs (necessary to bill students for vandalism), who was assigned to the problem, who actually repaired it and any kind of history. This is necessary to deal with parental calls and student calls to check on repairs, etc. This was implemented, training was provided, and the project was completed successfully.

Training and Development – Marist College
Needed a system that would take advantage of barcodes on Marist computers to monitor and keep track of the physical location of computer systems on campus. A database was developed using Excel 2000. A Wasp barcode scanner which is available was used in the project so inventory can be completed on the spot using a laptop. The database contains information about the Marist computers such as model numbers, serial numbers, Marist tag, date installed, physical location, etc. Project was successfully implemented.

Anderson School
Anderson School has operated under various regulations for many years, including the Family Educational Rights and Privacy Act (FERPA) and now had to meet the requirements of the Health Insurance Portability and Accountability Act of 1996 (HIPPA)/. Compliance with this act raised a host of issues relating to privacy and security of hard copy records, scanned documents, photocopies and facsimiles as well as issues regarding policies, procedures and training, network security, disaster recovery, computer disposal and electronic data interchange.
The team analyzed and designed security features for an existing data dictionary for eventual compliance with the two aforementioned federal acts. A survey of general security measures was developed and specifically for SQL databases. A final recommendation was made and accepted by the client.

Town of New Windsor
Data conversion and linking project. Transference of all 911 street addresses from text files to a relational database. The database was linked to maps that were developed using a program called "ARCGIS". This will allow users to find the 911 address of any property that is accessed.

Resnet
Needed feedback from students re: service provided by Resnet. Online survey was created so Resnet could survey the student body. A database was created to allow multiple surveys so as technology changes, surveys can be changed.

Hudson Valley Screen Printing and Embroidery, Inc.
New website was created to promote the company and allow access to those interested in services provided. Macromedia Dream weaver MS was used.

Fairview Fire Department
Developed a web site to allow community and members to obtain information re: FFD.

St. Ann's Corner of Harm Reduction
Not for profit organization committed to developing and strengthening of public health measures in vulnerable communities. Created a web site to attract people in the field, potential funders of the program as well as those curious about HIV facts, drug reform laws and criminologists. The web site is to be an educational resource and a means to solicit donations to keep the programs running and expanding.

Amrod Enterprises
Customized busses – developed web pages to advertise the busses. Digital photos were taken to show the interior of the busses which can serve as mobile homes. Potential customers see what can be done. This was important to the client so clients can become customers.

Schuylerville Central School District
The team was asked to assess, analyze and, document current state of network infrastructure and make recommendations on the best possible approaches for upgrading and standardizing. They wanted to switch from Novell to Windows environment. Recommendation was to install 2 new servers, replace the current e-mail system with Microsoft's Outlook, subscribe to Microsoft's academic learning software, implement a 3-Com voice-over-IP Telephony system in all 4 buildings, and implement Symantec Corporation's Ghost edition deployment software.

Marist Abroad Program (MAP)
MAP had been overburdened with paper work since 1999 and the program was growing. In 2002, a new database system was completed and implemented by a person who was working for IT. This person built the database and uploaded it to his server account. When the person left Marist, his server account was cancelled. He never moved the backend to another server and never notified MAP that he was leaving. The old database was originally coded in SQL with Access as a front end. The project student developed a new database using Access, which the client had requested so he, the client, could control, change and administer the system.

Carmel School District
An 8th grade mathematics teacher was the client. She requested a web site to post information for her students and their parents. She wanted current and past homework assignments available so students could obtain assignments and parents could also see the homework assigned to their children. She also wanted announcements re: tutoring sessions and posting of websites with helpful content to be available. She also requested that the web site be simple yet attractive for the students to access. Macromedia Frameworks and Dream Weaver were used to create the web site.

Cindy Herman Associates (CHA)
CHA provides organizational development consulting, training and coaching to a wide range of clients from Fortune 500 companies to local non-profit and small businesses. This project significantly enhanced CHA website to better market the services of CHA. Enhancements included user-friendly interface, more interactive features, use of cascading style sheets, created to display customer testimonials and images of Ms. Herman at work with clients, added banners, high energy colors, updated font size, rotated the quotes in a quote box more frequently, and so forth.

Gerry's Pizzeria
This is a new business that started in June 2005. Gerry needed help to update a web page so that he could market to people in the community and college students both at Vassar College and Marist College. The team's goals were to improve the functionality and aesthetics of Gerry's website. The overall appearance was enhanced, links were created to and from Marist College website, reorganization and restructuring of existing information on the website, (e.g., made all food items visible), and so forth. The team learned and used Dreamweaver, SwishMax, and ReaConverter 4.0.

DUTCHESS COUNTY OFFICE FOR THE AGING

A series of projects was developed during the period 2002 thru 2004. Note these were products of the Data Quality in Information Systems class rather than the IS Project, Design or Systems Analysis classes. This does make the point that a large variety of our courses at Marist use real world projects that both help the client and provide significant insight for the students.

First project: Data Quality Analysis of their overall process for collecting, processing, storing, reporting and managing data that summarizes the needs of their senior citizen clients; and the report of services actually provided. The initial study found 49 problems across 9 distinct databases, 11 processes with over 100 steps, and approximately 80 forms and reports. This project involved interviewing some20 case managers and studying disjoint and scattered documentation, finally creating and integrating the documentation. Final presentation was given to Director of DCOA and several managers, including the Marist College Academic Vice President and Dean of the School of Computer Science and Mathematics. (Spring 2002).

Second Project: Create DCOA Online Document Center to minimize the use of paper forms and the manual typing of them. Also a major gain was to collect uniform information at the same time the information was typed it would be input into the database. This was completed but only partially implemented. The team automated the 17 most important and commonly used forms (Summer 2002).

Third Project: DCOA Long Term Care Directory of Services. The directory now contains information pertaining to various service providers (e.g., Meals on Wheels) and is available online via the WWW. Previously the information was only available in paper form and was often out of date or inaccessible. One advantage of this approach is that new services could be made visible to both the case managers and to the clients throughout the community (Fall 2002).

Fourth Project: An objective measure of the main DCOA database was performed using the Integrity Analyzer (IA) software package developed by Dr. Richard Wang of MIT. IA tests were conducted on a "CASA" database that has 99 tables listed in the dictionary but has only 19 accounted for in its relationship diagram. 38 tables were found to be blank. Several tables contained duplicate and unwanted data. Many technical integrity problems were found (note these were above and beyond the initial 49 problems found the first DQ analyst (Fall 2002).

***Fifth Project*:** DCOA Time Reporting Project. DCOA supervisors and managers are required to "roll up" time sheets by activities of the case workers and case managers in order to apply for funding from various county, state and federal programs. This had been done by hand and took many iterations with lots of error and rework. The new procedure provides a nice user friendly interface for workers to enter their data and then the system can perform "roll ups" as necessary to meet a variety of reporting requirements.

Appendix G: Graduate Student Projects (2002-2006)

Northern Dutchess Hardwoods
The problem the client described was she wanted more exposure to the public, lower costs of raw materials, and inventory tracking. The recommendation was to use QuickBooks to a greater extent than was being done, get training in the use of QuickBooks, create a website to expand the customer base, upgrade the hardware infrastructure, plan for disaster recovery, and allow for sales analysis on items sold.

World Tae Kwon Do
Billing, accounts receivable, and a contract management system were examined. The assessment revealed that the process for billing and accounts receivable were being outsourced. All other transactions were handled in-house, and were manual with little or no documentation. The final recommendation was to use Master Vision Remote software to meet the client's needs, processes and organizational initiatives of a karate school. This is a "remote" systems (accessed by the user, on line and maintained on a server by the software company). Client can access the information from his home or office computers. Subscribing to Electra card, an electronic funds transfer company, will eliminate the need for an outsourcer.

Walden Historical Society (WHS)
WHS lacked a central electronic storage/cataloging system for artifacts, finances, members, and other information pertinent to the organization. The recommendation of the team was hardware (Gateway 510), software (Past Perfect 3.5), printer/scanner/fax (HP 7110A) and a digital camera (Kodak Easy Share D46340). Past Perfect allows for collection management, objects catalog, natural history catalogs, archives catalog, library catalog, photos, and information about loans to other museums.

A1 Fence Company
Current system problems were: estimating system to prepare customer job estimates using estimate layout sheets, materials inventory, another manual process where physical review of bulk inventory was by sight on a regular basis, and reorder those items where stock appears low, accounting information system maintained on QuickBooks accounting software but was limited to cash management and those functions needed to produce information for filing corporate income and sales tax returns. The payroll systems was outsourced to PayChex. The recommended solution was to utilize QuickBooks software's additional features of assisted payroll service and job cost features.

Astor Home for Children
Needed help with management and retention of information on training courses and individual employee training records. A database was designed which would generate reports and be acce3ssible from remote locations. There are 20 locations within New York State. The home office is in Rhinebeck, NY. Every Astor employee is required to have training record to demonstrate compliance with various NY State laws. A Microsoft Access database was used. The original process of collecting information was a paper-based system.

Appendix H: Recommended Course Sequence for BSITS (Common Years)
This is the first two years of the BSITS curriculum recommended course sequence.

ITS Curriculum - Recommended Course Sequence

	Number	*Name*	*Credits*	*Class*
Freshman	CMSC 110	Computing Studies Seminar	1	M
Fall	CMSC 120	Computer Science I and Lab	4	M
	MATH 130	Introduction to Statistics I	3	M
	PHIL 101	Introduction to Philosophy	3	F
	ENG 116	College Writing I	3	F
			14	
Spring	CMSC 121	Computer Science II	3	M
	MATH 250	Discrete Mathematics I	3	M
	ITS 130	ITS Concepts	3	M
	ENG 117 / c/LS	College Writing II or Core/LS	3	F
	HIST 101	Themes of Modern History	3	C
			15	
Sophomore	ITS 210	Web Programming I	3	M
Fall	MATH 241	Calculus I	4	M
	ITS 406	Data Communications	3	M
	BUS100	Intro to Business and Management	3	M
	Core/LS	Core / Liberal Studies	3	C
			16	
Spring	ITS 220	Web Programming II	3	M
	ITS 321	Architecture of Hardware and Software	3	M
	ITS 408	Data Management	3	M
	Core/LS	Core / Liberal Studies	3	C
	Core/LS	Core / Liberal Studies	3	C
			15	

Legend
M-ajor
F-oundation
C-ore
O-ther

Appendix I: Recommended Course Sequence for BSITS (IT)
Junior and Senior year recommend course sequence for the **IT concentration**:

	Number	*Name*	*Credits*	*Class*
Junior	ITS 4xx	Systems Analysis and Design	3	M
Fall	ITS 407	Internetworking	3	M
	ITS 312	Unix	3	M
	Core/LS	Core / Liberal Studies	3	C
	Core/LS	Core / Liberal Studies	3	C
			15	
Spring	PHIL300	Ethics	3	F
	ITS 39x	ITS Elective	3	M
	ITS 420	Internet Security	3	M
	Core/LS	Core / Liberal Studies	3	C
	Core/LS	Core / Liberal Studies	3	C
			15	
Senior	ITS 410	Systems Administration	3	M
Fall	ITS 39x	ITS Elective	3	M
	?	General Elective / Internship	3	O
	ITS 4xx	Technology Entrepreneurship	3	M
	Core/LS	Core / Liberal Studies	3	C
			15	
Spring	ITS 39x	ITS Elective	3	M
	?	General Elective / Internship	3	O
	?	General Elective / Internship	3	O
	Core/LS	Core / Liberal Studies	3	C
	ITS 477	Capping: IT and Society	3	M
			15	

Legend
M-ajor
F-oundation
C-ore
O-ther

Appendix J: Recommended Course Sequence for BSITS (IS)
Junior and Senior year recommended course sequence for the **IS concentration**:

	Number	*Name*	*Credits*	*Class*
Junior	ITS 4xx	Systems Analysis and Design	3	M
Fall	ECON101	Principle Macroeconomics	3	M
	ACCT 203	Financial Accounting	3	M
	?	General Elective / Internship	3	O
	Core/LS	Core / Liberal Studies	3	C
			15	
Spring	PHIL300	Ethics	3	F
	ACCT 204	Managerial Accounting	3	M
	ECON102	Principle Microeconomics	3	M
	Core/LS	Core / Liberal Studies	3	C
	Core/LS	Core / Liberal Studies	3	C
			15	
Senior	ITS 492	ITS Project	3	M
Fall	BUS 340	Marketing Mgmt	3	M
	ITS 452	Decision Support Systems	3	M
	?	General Elective / Internship	3	O
	?	General Elective / Internship	3	O
			15	
Spring	ITS 478	Capping: IS Policy	3	M
	ITS 428	Data Quality in Information Systems	3	M
	Core/LS	Core / Liberal Studies	3	C
	?	General Elective / Internship	3	O
	?	General Elective / Internship	3	O
			14	

Legend
M-ajor
F-oundation
C-ore
O-ther

Appendix K: Faculty Curriculum Vitae

Craig W. Fisher, Ph.D.

233 Wilbur Blvd ***Phone (914) 462-5630***
Poughkeepsie, NY 12603 ***(914) 575-3000, x2621***

Craig.Fisher@Marist.EDU

EDUCATION

BS Mathematics Education, 1965, SUNY at Oswego, NY.
MA Mathematics, 1968, Ball State University, Muncie, IN.
Ph.D. Information Science, 1999, University at Albany, NY.

EXPERIENCE

Professional Industrial
IBM, 1969 - 1988

IBM Worldwide Information Systems Audit Manager, 2 yrs.
IBM Corporate Headquarters
IS audits in Japan, Germany, Scotland, France and throughout the United States.

Data Processing Manager (4th level)/ Office & Technical Systems, 3 yrs.
IBM Sterling Forest
Managed 200 employees, Systems support & computer operations, Office Systems Center of Competency and Database Center of Competency

Visiting Assistant Professor of Information Systems
North Carolina Central University, 1 year.
Taught Information Systems and Data Management

Engineering Computer Operations Manager (3rd level), 2 yrs.
IBM Poughkeepsie, Engineering Laboratory DP operations.

Applications Development Manager (2nd level), 5 years.
Engineering Applications
Created IBM Pok's first Data Base Administration department.

Engineering Application Manager (1st level), 2 years.
developed engineering database that saved $7 million for IBM

Systems Engineer/Computer Programmer, 5 years.
Assembler, IMS, PL/1, MIS/360, PL/S, COBOL

College Experience
MARIST COLLEGE, 1989 to Present
Associate Professor, Information Systems

TEACHING

Graduate courses taught:

- Data Management,
- Systems and Information Concepts in Organizations,
- Systems Design (in classroom and ONLINE),
- Data Quality in Information Systems (in classroom & ONLINE),
- Information Systems Policy (in classroom and ONLINE).

Undergraduate courses taught:

- IS Concepts,
- Data Management,
- Information Systems Project,
- Systems Design Methods,
- Systems Analysis,
- Problem Solving and Programming in Business,
- Information Systems Policy,
- Data Quality in Information Systems (in classroom & ONLINE).

Information Systems Internship Coordinator, 10 years

COMMITTEES

Middle States Subcommittee for Budget and Resource Allocation.
Middle States Subcommittee for Innovation & Experimentation,
IS Discipline Committee,
Core/Liberal Studies Committee,
Marist/IBM 3090 Joint Study Steering Committee,
Chair, IS Faculty Search Committee,
CS and IS joint Curriculum Committee,
Marist College TQM Proposal Committee,
Academic Affairs Committee,
Dean's Search Committee 2000.
Chair, Peer Review for several Mid-Tenure Reviews,
Several Peer Reviews for Promotions.

DISSERTATION

"An Empirically Based Exploration of the Interaction of Time Constraints and Experience Levels on the Data Quality Information (DQI) Factor in Decision-Making." October 1999. Information Science, University at Albany, Albany, NY.
NOTE: *Distinguished Dissertation Award, 1999 - 2000,* University at Albany, NY

PUBLISHED PAPERS and BOOKS

Fisher, C. W. and Lauria, E. Instructor Manual for textbook, Introduction to Information Quality. Summer-2006. (In-Print) MITIQ Press, Cambridge MA.

Fisher, C. W., Lauria, E., Chengalur-Smith, I., and Wang, R. Y. 2006 Introduction to Information Quality. MITIQ Press. MIT Cambridge, MA.

Information Quality. **2005**. Eds. Rich Wang (MIT), Stuart Madnick (MIT), Liz Pierce (Indiana University of PA) and **Craig Fisher** (Marist College). Advances in Management Information Systems. M. E. Sharpe Publishing, Armonk, NY.

Woolley, T. D. and **Fisher, C. W**. 2005. "Internet-Voting: Beyond Technology." Chapter 6 in Information Security and Ethics: Social and Organizational Issues. Editor Dr. Marian Quigley. Idea Group Inc. Hershey, PA.

Strong, D. M., **Fisher, C. W**., Feinstein, D. L., and Longenecker, H.E. "Teaching, Learning and Curriculum Development to Support Managing Information as a Product." Advances in Management Information Systems Special Monograph issue on Information Quality, **2005**.

Chung W. Y., **Fisher, C. W.** and Wang, R. Y. "Redefining The Scope and Focus of Information Quality Work: A General Systems Theory Perspective." Advances in Management Information Systems Special Monograph issue on Information Quality, **2005**.

"The Impact of Experience and Time on Use of Data Quality Information in Decision Making." **June 2003**. Fisher, C. W., Chengalur-Smith, I., and Ballou, D. P. Information Systems Research (ISR).

"I-Voting: To have or not to have?" **May 2003**. Woolley, T.D. and Fisher, C.W. Proceedings of the Information Resources Management Association (IRMA) International Conference, May 2003, Philadelphia, PA.

"What Skills Matter in Data Quality" **November 2002**. Chung W. Y., Fisher, C. W. and Wang, R. Y. Proceedings of The Seventh International Conference on Information Quality (ICIQ). MIT, Cambridge, MA.

"Criticality of Data Quality as Exemplified in two Disasters." **Dec 2001**. Fisher, C. W. and Kingma, B. Information & Management Journal Vol. 39 No 2.

A College Course: Data Quality in Information Systems. The Sixth International Conference on Information Quality. **November 2001**. Fisher, C. W. MIT, Cambridge, MA.

"An Empirically Based Technique for Improving Communication Skills of Systems Analysts." **2000**. Fisher, Craig W. Information Systems Educators Conference 2000, Philadelphia, PA.

"Systems Analysis Course Assessment in a Small College." **2000**. Hoopes, Joan E. and Fisher, Craig W. Information Systems Educators Conference 2000, Philadelphia, PA.

"A Model for Exploring the Influence of Organizational Factors on Technology Outcomes," March **1996**. Craig W. Fisher. Eastern Small College Computing Conference.

"An Empirically-Based Model for Enhancing the Development and Retention of Listening Skills in Information Systems College Students," Dec. **1992**. Fisher, Craig W., Proceedings of the International Association for Information Management Conference (IAIM), Dallas, TX.

RELATED PROFESSIONAL ACTIVITY

President, International Conference on Information Quality (ICIQ), 2003. MIT, Cambridge, MA.

Academic Program Chair and Co-Editor, The Seventh International Conference on Information Quality. November 2002. MIT, Cambridge, MA.

In July 2002, Participated in the teaching of the 4 day class *Data Quality: Principles and Implementation* in MIT Summer Program at MIT, Cambridge, MA

Member of Board of Directors of International Conference on Information Quality. November 2002-ongoing. MIT, Cambridge, MA.

Presented two research projects to the Hudson Valley Center for Emerging Technology (HVCET) and obtained approvals for both projects. IBM-Marist joint study funded the projects. 2001-2003

Session Chairman, Eastern Small College Computing Conference (ESCCC), October 1998. Poughkeepsie, NY.

Re-wrote Chapter 9, "The Database," of text, Management Information Systems

5e by Ray McLeod, 1992, Macmillan, Co.

"Systems Analysis and Design: Approaches for the 1990s." Panel Chairman, Eastern Small College Computing Conference (ESCCC), October 1992.

Session Chairman, Eastern Small College Computing Conference (ESCCC), October 1992.

"Advantages of Seeing Multiple Points of View for the Information Systems Analyst," NY State Mental Health Conference on Management Information, Marist College, October 1991.

"Computer Viruses" Monthly Meeting of the Association of Computing Machinery (ACM), October 1990.

"Computer Viruses and Preventive Measures," January 9, 1990. Annual meeting of the Data Processing Management Association (DPMA), Newburgh, NY.
"Competitive Automated Audit Systems," August 1989, IBM Corporate Headquarters, Stanford, CT.

"Expand Your Vision of Opportunity," IBM Regional IS Services Meeting, March 6, 1989; Somers, NY.

"Introduction to Systems Analysis" - Video Tape Lecture, NCCU, 1984, aired on PBS television in the Raleigh Durham area; Also viewed in local high schools.

"Data Administration & The Information Center Concept at the IBM Poughkeepsie Lab," 1981; IBM Second Annual International Data Administration Symposium; Sterling Forest.

IBM Technical Reports: "Multiple Index Data Sets for MIS/360," 1970.
"Double-Barrel MIS/360," 1972.
"Effective Systems Analysis," 1981.
"Database Administration & Information Centers," 1983

HONORS

Marist College Faculty Teaching Excellence Award. Fall 2006. Board of Trustees.
Faculty Recognition Award 2004 – 2005. Marist College James A. Cannavino Library research, scholarship and service award.
Distinguished Dissertation Award, University at Albany, 1999 - 2000.
Marist College Outstanding Teacher Award, 1995.
Vassar-Chadwick Chess Club Lifetime Achievement Award, 1994.
Data Systems Division Achievement, IBM, 1983.
Technical Marketing Excellence, IBM, 1972.

ACTIVITIES

- Current President, VASSAR-CHADWICK Chess Club, 18 years
    - & Vice President, 6 years,
- Chairman of Parent Teacher Association, 1976 - 1977,
- CYO Basketball Coach, 7 years,
- Advisor Alpha Kappa PSI Business Fraternity,
- Founder of Marist College Chess Club, 1990,
    - Faculty Advisor, 1990 - Present,
- United States Chess Federation certified tournament director,
- Dutchess County Chess Champion, 1995,
- US Amateur Team East 2000 - Top Team Under 2000,
- Visiting Assistant Professor at North Carolina Central University, 1983 - 1984,
- Volunteer, CareNet. 1995 – Present,
- Substitute Sunday school Teacher, 1995 - 2002,
- Chairman, Building and Grounds Committee, Immanuel Church, 2003 – present,
- Deacon, Immanuel Church, 2004 – present,
- Mentor, Marist College Women's Basketball Team, 2003 – Present,
- Volunteer, Poughkeepsie Children's Home, Started January 2006.

Eitel J.M. Lauría

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Marist College
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(518) 496 – 1721 (cell)

Eitel.Lauria@marist.edu
eLauria@gmail.com
http://foxweb.marist.edu/users/Eitel.Lauria

Education

- PhD, Information Science, University at Albany, State University of New York, 2003

- Master en Dirección de Empresas (Master in Business Administration), Universidad de Deusto (Bilbao, Spain) / Universidad del Salvador (Argentina) , 1996.

- Ingeniero Electromecánico Orientación Electricista, (Six-year degree in Electrical Engineering), Facultad de Ingeniería, Universidad de Buenos Aires, Argentina, 1983.

Professional Experience

Profile

20+ years of management information systems and consulting experience, working with multinational corporations, with extensive hands-on experience in managing computer facilities, planning, managing and coordinating information technology resources and software development projects, developing long-range information systems plans, forecasting and control of operating budgets, and leading technical and clerical staff.

2002 – Present

Assistant Professor of Information Systems, School of Computer Science & Mathematics, Marist College, Poughkeepsie, NY, USA

Project Manager at CCODC (Center for Collaborative and On Demand Computing), Marist College (http://ccodc.marist.edu)

Graduate Director of Information Systems, Marist College

Co-Director of the Master of Science in Technology Management, Marist College

Visiting Lecturer, School of Business Administration, Universidad del Salvador, Argentina

2001 – 2002

Lecturer, Management Science and Information Systems Dept., School of Business, University at Albany, NY, USA

1986 – 2000

Managing Partner at GLD Consultores, Argentine software and consulting company **specialized** in developing and implementing computer-based solutions for the corporate market. GLD is a Microsoft Solution Provider and Consulting Services Partner, and a local value added distributor for several American companies, including Applix (TM1), Quality America, and Financial Technologies.

- Job description and responsibilities: Planning, organization and management of IT projects. Definition of marketing strategies concerning IT products and services. HR administration, including selection, allocation, supervision and assessment. Customer development, support and follow-up.
- During this period, he led numerous IT projects and has provided consulting and training in different industry segments, including telecommunications, oil and chemical, utility, transport and logistics, technology, manufacturing, retail, government. Customer list includes Acindar, Aerolíneas Argentinas, Andersen Consulting (Accenture), Austral Líneas Aéreas, Astra CAPSA (REPSOL), BASF, Bristol Myers Squibb, Eastman Chemical Argentina, Esso SAPA, Exxon Chemical Argentina, Hewlett Packard, Philip Morris, Meta 4, Microsoft Argentina, Ministry of Economy, Ministry of Work, Pioneer Argentina, Reuters, Ryder Argentina, Ryder Brazil, TELECOM, Telefónica de Argentina.

Faculty member and Chair, Information Systems Dept., School of Business, Universidad del Salvador.

- In charge of the undergraduate and graduate IS programs. Developed relationships, contacts and cooperation agreements with local and foreign universities and IT vendors. Active member of the group that launched the MBA program with concentration in MIS (MBA/MIS), joint project with the School of Business, University at Albany, State University of New York.

1998 – 2000

Universidad del Salvador (USAL), President's Office
Senior IT Advisor

- Job description and responsibilities: Coordinator of the IT Steering Committee. Definition of IT policies and strategies, including planning in such areas as organization and HR, technology and applications. Control and auditing of outsourcing services, vendors and HR, conducting negotiations, defining scope, terms, conditions and prices.

- IT Resources under control: Wide area network linking 12 buildings in the metropolitan area (Buenos Aires) and connecting the University Campus located in Pilar. Data Center with Unix (SUN), NT, Novell and Linux Servers; 400+ workstations (Windows NT/2000, Java Stations). Connectivity and interoperability among different platforms through TCP/IP, including e-mail, groupware services and Internet access.

1987 - 1999

IT Consultant, World Bank

- Senior IT Advisor, Cabinet´s Head Office, Ministry of Work, 1998-1999
- Project Manager, 1996/1997. Proyecto AR/97/003 - PNUD –SECLO - Ministry of Work.
- Project Manager, 1991/1994. Proyecto AR/88/005 - WB-PNUD-PRONATASS, Ministry of Justice.
- Senior Consultant, 1988/1989. Proyecto AR/86/R01 - WB-BIRF-PNUD. Technical Assistance Program: "Fortalecimiento de la Capacidad de Gestión del Sector Público. Sistemas de Información para la Gestión de la Administración Pública". Secretary of Public Affairs.
- Senior Consultant, 1987. Proyecto AR/86/R01 - WB-BIRF-PNUD.Technical Assistance Program: "Fortalecimiento de la Capacidad de Gestión del Sector Público". DGI – Ministry of Economy

1983 – 1986

Apple Computer Inc. (Buenos Aires branch)
- IS and Training Services Manager. 1985 - 1986
- Systems Engineer. 1983 – 1984

1979-1985, 1989-1990

Facultad de Ingeniería, Universidad de Buenos Aires, Argentina

- Adjunt, Database Management / Numerical Analysis 1989 – 1990
- Adjunt, Computer Programming, 1983– 1985
- Teaching Assistant, Computer Programming, 1979 – 1983

Teaching Experience

Marist College

2002-2007	CS542	Database Mgmt Systems
	IS130	Information System Concepts
	MSIS527	Systems & Information Concepts in Organizations
	MSIS637	Decision Support Systems
	MSIS638	Business Intelligence (Data Warehousing & Data Mining)
	IS404	Systems Analysis Methods
	IS408	Data Mgmt Systems
	IS409	Data Mgmt Lab

University at Albany, State University of New York

2001-2002	MSI331	Information Decision Systems II (Data Mining)
	MSI510	Software Development
	MSI520	Database Mgmt Systems
	MSI603	Data Communications & Networking
	MSI415	Systems Analysis & Design

Universidad del Salvador, Buenos Aires

1986-2006	Statistics and Management Science
	E-Marketing, Business Intelligence & Supply Chain Management
	Information Technology Mgmt
	Field Project
	Data Structures (Pascal / C)
	Data Networks
	Data Base Mgmt Systems
	Object Oriented Programming (C++)
	Systems Analysis & Design

Universidad de Buenos Aires, Buenos Aires

1989–	Data Base Mgmt Systems
1990	Numerical Analysis
1979-1985	Computer Programming

Training Seminars

1983 – 2006	100+ seminars and courses delivered to relevant customers in Argentina, Brazil, Uruguay, Mexico and USA in such topics as, data warehousing, business intelligence, client/server technology, decision support systems, component-based software development, Internet and ecommerce architectures , operations and supply chain management

Research Intererests and Current Projects

His broad research interests cover the fields of Information Technology, Information Decision Systems, Business Intelligence, Data Warehousing, Data Quality, Data Mining, Statistical Machine Learning, Bayesian networks, and Collaborative Computing, focusing on the application of these technologies in a variety of domains. His current research projects cover the following topics:

Bayesian Network learning from data

- Information geometrical issues of learning structure and parameters of Bayesian networks

Information technology implementation

- The application of Bayesian networks as probabilistic expert systems for information technology implementation assessment
- Analysis of critical success factors in IT implementation with emphasis in organizational issues
- IT implementation issues in ERP systems

Business intelligence

- Bayesian Nets for Decision Making in Supply Chain Management
- Bayesian Data Mining of Media Monitored Consumer Behavior

Information security

- Analysis of data quality issues in data mining for network intrusion detection
- Quantitative risk analysis models for information security

Medical informatics

Hierarchical Bayesian learners for text-mining medical diagnoses and automatic ICD9-CM coding

- Analysis of data quality issues in statistical machine learning for automatic ICD9-CM coding
- Development of Bayesian / maximum entropy data analysis tools and computational techniques for analyzing the activity of biological neural circuits in live laboratory animals monitored through nanoprobes

Collaborative and Distirbuted Computing

- Development of a Smart Meetings Environment implemented through web based collaborative technologies (client: IBM Global Services, CCODC NYSTAR grant)
- Development of a Web based recommendation system (Dutchess Wine Trail; Sawangunk Wine Trail)

Academic Activities

- Program Committee Member of AMCIS 2005 / 2006
- Program Committee Member of the International Resource Management Association Conference, 2004 / 2005 / 2006
- Program Committee Member of the International Conference on Information Quality (ICIQ), Massachusetts Institute of Technology, Cambridge, MA, 2002 / 2003 / 2004 / 2006 / 2007
- Affiliate partner representative, New York State Center for Information Forensics and Assurance, 2004
- Reviewer of the European Journal of Operation Research, 2006
- Reviewer of the Journal of Organizational and End User Computing, 2004
- Reviewer of the special issue on Information and Data Quality in the Journal "Studies in Communication Sciences", 2004
- Reviewer of the Journal of Electronic Commerce Research, 2004
- Reviewer of the special issue of Annals of Operations Research on "Personnel Scheduling and Planning", 2004
- Program Committee Member of the International Workshop on Data and Information Quality (DIQ), Riga, Latvia, 2004
- Reviewer of papers submitted to the special volume on *Information Quality in the Advances in Management Information Systems* monograph series, sponsored by the Total Data Quality Mgmt Program, Massachusetts Institute of Technology, 2003
- Program Committee Member of the International Conference on Computer Science and Operations Research, Buenos Aires, Argentina, JAIIO (2003, 2004, 2005)

Publications and Proceedings

Refereed Journal Articles, Books and Book Chapters

- **Lauría E.**, Duchessi P., "A methodology for developing Bayesian networks: An application to information technology (IT) implementation", European Journal of Operational Research, Volume 179, Issue 1, 16 May 2007, 234-252
- **Lauría, E**., Duchessi, P. "A Bayesian Belief Network for IT implementation decision support, Decision Support Systems, Volume 42, Issue 3, December 2006, 1573-1588
- **Lauria E**., "Exploring the Behavioral Dimension of Client Server Technology Implementation: An Empirical Investigation", International Journal of Technology and Human Interaction, July-September 2006, 2(3), 63-81
- **Lauria E.,** "An information-geometric approach to learning Bayesian network topologies from data.", forthcoming in D. Holmes and L.C. Jain (Eds.): *Innovations in Bayesian Networks: Theory and Applications*, Springer-Verlag 2007
- Fisher, C., **Lauría, E.,** Chengalur-Smith, S., Wang, R. *Introduction to Information Quality* (textbook) , MIT-IQ Press, Cambridge, MA, 2006
- **Lauria E**., Tayi, G., The Quest for Business Intelligence, in Erfolgsfaktor Innovation, Zurich Graduate School of Management, Ralph Berndt (Ed.), Springer, 2005
- **Lauria E**, "Bayesian Machine Leaning", in *Encyclopedia of Information Science and Technology, Volume I-III*, Mehdi Khosrow-Pour, (Ed.) Idea Group Inc, 2005
- **Lauria E**, Tayi G. (2003) "Bayesian Data Mining and Knowledge Discovery", in *Data Mining: Opportunities and Challenges*, John Wang (Ed.) Idea Group Publishing, Hershey PA

Conference Proceedings

- **Lauría, E**., March, A., "Misplacing the code: An examination of data quality issues in Bayesian text classification for automated coding of medical diagnoses", forthcoming in Proceedings of IRMA 2007 (Information Resource Management Association) International Conference, Vancouver, May 2007
- **Lauría, E**., March, A., "Effect of Dirty Data on Free Text Discharge Diagnoses used for Automated ICD-9-CM Coding", Proceedings of AMCIS 2006, the 12th Americas Conference on Information Systems, Acapulco, Mexico, August 2006
- **Lauría, E.,** (2005), "Learning the Structure of a Bayesian Network: An Application of Information Geometry and the Minimum Description Length Principle", in Bayesian Inference and Maximum Entropy Methods in Science and Engineering, Proceedings of the 25th International Workshop on Bayesian Inference and Maximum Entropy Methods in Science and Engineering , San José State University, USA, Kevin H. Knuth, Ali E. Abbas, Robin D. Morris, J. Patrick Castle (Ed.), 293-301

- **Lauria E**, Iacub P., Rozenfarb D., "Overcoming the Limitations of the ERP paradigm: a Latin American Exploration", Proceedings of IRMA 2005 (Information Resource Management Association) International Conference, San Diego, May 2005
- March A, **Lauría E**., Lantos J. ,"Automated ICD9-CM coding employing Bayesian machine learning: a preliminary exploration", Proceedings of SIS2004 (Simposio de Informática y Salud - SADIO), 33rd Conference on Computer Science & Operational Research, Buenos Aires, Argentina, Sept 20-24, 2004
- **Lauria E**, Duchessi P, "A Bayesian Belief Network-driven Decision Support System for Client-server Implementation", Proceedings of 2004 IFIP International Conference on Decision Support Systems, Prato, Italy, July 2004
- **Lauria E**., "The Behavioral Dimension of Technological Change: The Case of Client/Server", Proceedings of IRMA 2004 (Information Resource Management Association) International Conference, New Orleans, May 2004
- **Lauria E**, Tayi G. (2003), "A Comparative Study of Data Mining Algorithms for Network Intrusion Detection in the Presence of Poor Quality Data", Proceedings of the 8th international Conference on Information Quality (ICIQ-2003), Massachusetts Institute of Technology, November 2003
- March A, Leguiza J, **Lauría E.,** Gomez A, G. Bernaldo de Quirós F, Luna D. , "OLAP Technologies in Health Care Management: an application in Medicine Expenditure", Proceedings of SIS2001 (Simposio de Informática y Salud - SADIO), Sept 12-14 2001.(Research funded by IBM Argentina S.A.)
- March A, **Lauria E**., Meli F., "Computer Assisted Diagnosis Using Neural Networks. An Application for brain tumor diagnosis using computer axial tomography", Proceedings of the 1st International Conference of Medical Informatics, Buenos Aires, 1992

Papers in progress / Unpublished Work

(some drafts / abstracts available at http://foxweb.marist.edu/users/Eitel.Lauría)

- Quantification, Optimization and Uncertainty Modeling in Information Security Risks: A Matrix Based Approach, with Sanjay Goel, Univ. at Albany (submitted to Decision Support Systems)
- Information or Informing: Are we doing it right, with Sal Belardo, Univ. at Albany
- A Bayesian Network for Aggregation of Information Security Risks, with Sanjay Goel, Univ. at Albany
- Data Mining for Network Intrusion Detection: An Overview of the Application of Decision Tree and Naive Bayes Classifiers
- Systematized Nomenclature of Medicine, Reference Terminology: the key to Medical Data Warehousing
-

Grants

NYSTAR's (New York State Office of Science, Technology & Academic Research) Grant for Applied Research in Collaborative and On-Demand Computing, College Applied Research & Technology Center Program (CART), http://www.nystar.state.ny.us/cart.htm

Prizes and Awards

- CESSI (Chamber of Information Technology Companies in Argentina): Premio Sadosky nominee for best research work on Informatics and Business (http://www.cessi.org.ar/sadosky), 2005/ 2006
- Marist College: Office of the Academic Vicepresident's award for outstanding achievement in research, 2005, 2006

Citizenship

Argentine citizen, US permanent resident

Anne B. Matheus

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Marist College
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Professional Preparation

BA Psychology, 1971, Marist College, Poughkeepsie, NY
MA Psychology, 1975, Marist College, Poughkeepsie, NY
MSCS Information Systems, 1998, Marist College, Poughkeepsie, NY
ABD Information Science, University at Albany, NY

Appointments

Professional Lecturer of Information Systems and Information Technology, Marist College, 2004 – present
Director of Computer Literacy, Marist College, 2001 - present
Instructor of Information Systems, Marist College, 2001 – 2004
Director of Management Information Systems, NYS Office of Mental Health, 1996 - 2000
Computer Specialist, Hudson River Psychiatric Center, 1992 - 1996
Adjunct Faculty, Dutchess Community College, 1995 - 2000
Supervisor of Residential Services, Hudson River Psychiatric Center, 1980 - 1991
Clinician and Researcher, Hudson River Psychiatric Center, 1972 - 1980

Conference Presentations

Froatz, S., **Matheus, A.,** Wolfersteig, J. (1997), "Automating the Medical Record, One Agency's Experience", Proceedings of Seventh Annual Institute on Mental Health Management Information.

Matheus A., Regan, J.& Wolfersteig, J. (1998), "Successfully Managing Information Technology", Proceedings of Eighth Annual Institute on Mental Health Management Information.

Matheus, A. & Matheus, J. (1999), Integrating Novell and NT in a Wide Area Network. Ninth Annual Institute on Mental Health Management Information, Albany, NY, November, 1999.

Labouseur, A. & **Matheus, A**. (1999) "Developing Cross Departmental Database Applications", Proceedings of Ninth Annual Institute on Mental Health Management Information.

Matheus, A. (2004), "Web Design Quality versus Web Information Quality", Proceedings of the 9th International Conference on Information Quality.

Matheus, A., Norton, R., and Longo, R. (2005), "Teaching Information Fluency: A New Pedagogical Framework", Proceedings of Information Resource Management Association 2005 International Conference.

Professional Memberships:

Association for Computing Machinery
Association for Information Systems
Information Resource Management

Awards:

Facility Information Center of the Year, 3rd Place, Office of Mental Health, New York State (1999)

Synergistic Activities

Program Committee:

- International Workshop on Data and Information Quality, 8th June 2004, Riga, Latvia
- ICIQ 2006: 11th International Conference on Information Quality
- ICIQ 2005: 10th International Conference on Information Quality
- ICIQ 2004: 9th International Conference on Information Quality
- ICIQ 2003: 8th International Conference on Information Quality
- ICIQ 2002: 7th International Conference on Information Quality

Mini-Track Co-Chair AMCIS 2003, IT Infrastructure – Information Quality
Data Quality: Principles and Implementation Course, July 2003 at MIT

Professional Certification

Microsoft Certified Professional
Certified Novell Administrator

Nora I. Misiolek

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10913 Brookside Road
Pleasant Valley, NY 12569
Phone: (845) 723-4070

Nora.Misiolek@marist.edu

EDUCATION

SYRACUSE UNIVERSITY

- Doctorate in Information Science & Technology, School of Information Studies, December 2006
  Dissertation topic: Patterns of emergent leadership in distributed teams.
  Adviser: Robert Heckman.

  Teaching and research interests: Organizational impacts of information technology; information technology and innovation; virtual collaboration, IS strategy; entrepreneurship and emerging enterprises; systems analysis.

- Master's in Business Administration, Marketing & Innovation Management, Whitman School of Management, August 1999.

- Bachelor of Arts, Social Psychology and Interdisciplinary Linguistics, College of Arts and Sciences, May 1992.

PROFESSIONAL EMPLOYMENT

- Assistant Professor of Information Systems, School of Computer Science & Mathematics, Marist College, August 2006 – present.

- Adjunct Instructor, School of Information Studies, Syracuse University, Fall 2001 – Spring 2006.

- Founder, Innovative Consulting Practices (ICP), Providence, August 1996 – present.

- Research Associate, S.I. Newhouse Chair, School of Public Communications, Syracuse University, August 1988 to July 1996.

ACADEMIC PUBLICATIONS

Heckman, R., Crowston, K., & **Misiolek, N.** (2007). A structuration perspective on leadership in virtual teams. In K. Crowston & S. Seiber (Eds.), Proceedings of the IFIP Working Group 8.2/9.5 Working Conference on Virtuality and Virtualization. Portland, OR: Springer.

D'Eredita, M., **Misiolek, N.,** & Siow, J. (2005). Organizing a virtual collective mind: Shifting attention from proximity to actions and fundamental needs of virtual teams. In Proceedings of the 5th Annual Hawaii International Conference on Business. Available at: http://www.hicbusiness.org.

D'Eredita, M., **Misiolek, N.,** & Siow, J. (2005). States of mind as stages of team development: Making sense of strategies for building a virtual team. In Proceedings of the 5th Annual Hawaii International Conference on Business. Available at: http://www.hicbusiness.org.

Misiolek, N., & Wilemon, D. (2005). The role of information technology in strategic alliances. In Proceedings of Pan-Pacific Conference XXII. Lincoln, NB: College of Business, University of Nebraska.

Misiolek, N., & Heckman, R. (2005). Patterns of emergent leadership in virtual teams. In Proceedings of the 38th Hawaii International Conference on Systems Sciences – 2005. Available at: http://www.hicss.hawaii.edu/home.htm.

Heckman, R., & **Misiolek, N.** (2005). Leaders and followers in student online project teams. In Proceedings of the 38th Hawaii International Conference on Systems Sciences – 2005. Available at: http://www.hicss.hawaii.edu/home.htm.

Misiolek, N., & Wilemon, D. (2002). Strategic alliances in emerging and transitional economies. In A. Young, I. Teodorovic, & P. Koveos (Eds.), Economies in transition: Conception, status, and prospects (pp. 103-129). Singapore: World Scientific Press.

Misiolek, N., Zakaria, N., & Zhang, P. (2002). Trust in organizational acceptance of information technology: A conceptual model and preliminary evidence. Paper presented at the annual meeting of the Decision Sciences Institute, San Diego, CA (November 23-26). Annotated version published in 2002 Decision Sciences Institute Conference Proceedings. Atlanta, GA: Decision Sciences Institute (CD-ROM).

Misiolek, N., & Wilemon, D. (2002, May). Cross-border alliances in transition & emerging economies. In Proceedings of Pan-Pacific Conference, XIX. Lincoln, NB: College of Business, University of Nebraska.

Misiolek, N., & Smith, K.A. (2000). Agency and stewardship: Where's the problem? Paper presented at the 2000 Decision Sciences Institute (DSI) Annual Meeting, Orlando, FL (November 19-21). Annotated version published in 2000 Decision Sciences Institute Conference Proceedings. Atlanta, GA: Decision Sciences Institute (CD-ROM).

Misiolek, N., & Wilemon, D. (2000, October). E-NEWPROD: Issues in Internet deployment for new product development. In M. Montoya-Weiss (Ed.), Driving business growth through innovation. Product Development Management Association Research Conference Proceedings – 2000 (pp. 128-147). Morristown, NJ: Product Development Management Association.

WORK IN PROGRESS

Misiolek, N. Do you see what I see? Information quality and managerial decision-making in cross-functional new product development. Working paper, School of Computer Science & Mathematics, Marist College.

D'Eredita, M., & **Misiolek, N.** Sensemaking and collective mind in virtual team development (Working title). Manuscript in preparation for journal submission. An earlier version of this paper was presented at the 2005 Hawaii International Conference on Business.

Misiolek, N. Knowledge management and the corporate university: Insights from the knowledge-based view of the firm. Manuscript in preparation for journal submission. An earlier version of this paper was presented at the 2003 Annual Meeting of the Academy of Management.

Misiolek, N., & Wilemon, D. The role of information technology in strategic alliances. Manuscript in preparation for submission. An earlier version of this paper was presented at the 2005 Pan Pacific Business Association Annual Conference.

Misiolek, N., & Stanton, J. Agency, stewardship, or something in between: A socio-cognitive model of agency in decision-making. Manuscript in preparation. An earlier version of this paper was presented at the 2000 Annual Meeting of the Decision Sciences Institute.

CONFERENCE PAPERS AND PRESENTATIONS

Misiolek, N. Patterns of emergent leadership in virtual teams. Paper accepted for presentation to the 2007 Annual Meeting of the Academy of Management, Organizational Communication and Information Systems Division (August 2007).

Crowston, K., Heckman, R., & **Misiolek, N.** A structuration perspective on leadership in virtual teams. Paper accepted for presentation at the IFIP WG 8.2/9.5 Conference on Virtuality and Virtualization.

D'Eredita, M., **Misiolek, N.,** & Siow, J. (2005). Organizing a virtual collective mind: Shifting attention from proximity to actions and fundamental needs of virtual teams. Paper presented at the 2005 Hawaii International Conference on Business, Honolulu, HI (May 26-29).

D'Eredita, M., **Misiolek, N.,** & Siow, J. (2005). States of mind as stages of team development: Making sense of strategies for building a virtual team. Paper presented at the 2005 Hawaii International Conference on Business, Honolulu, HI (May 26-29).

Misiolek, N., & Wilemon, D. (2005). The role of information technology in strategic alliances. Paper presented at the 2005 Pan Pacific Business Association Annual Conference, Shanghai, China (May 25-27).

Misiolek, N., & Heckman, R. (2005). Patterns of emergent leadership in virtual teams. Paper presented at the 2005 Hawaii International Conference on System Sciences (HICSS-38), Waikoloa, HI (January 3-6).

Heckman, R., & **Misiolek, N.** (2005). Leaders and followers in student online project teams. Paper presented at the 2005 Hawaii International Conference on System Sciences (HICSS-38), Waikoloa, HI (January 3-6).

Misiolek N. (2003). Knowledge management and the corporate university: Insights from the knowledge-based view of the firm. Paper presented at the annual meeting of the Academy of Management, Seattle, WA (August 1-6, 2003).

Misiolek, N., & Comstock, G. (2003). Is it always virtuous to be virtual?: A framework for assessing virtual growth strategies in entrepreneurial firms. Paper presented at the International Association for Management of Technology meeting, Nancy, France (May 13-15).

Misiolek, N., & Wilemon, D. (2003). Alliance management as a strategic competency in emerging and transition economies. Paper presented at the International Association for Management of Technology meeting, Nancy, France (May 13-15).

Misiolek, N., Zakaria, N., & Zhang, P. (2002). Trust in organizational acceptance of information technology: A conceptual model and preliminary evidence. Paper presented at the annual meeting of the Decision Sciences Institute, San Diego, CA (November 23-26).

Von Dran, G.M., Stanton, J., Kaarst-Brown, M., Von Dran, R., & **Misiolek, N.** (2002). The resource-based view of strategic organizational culture: An empirical test. Paper presented at the annual meeting of the Decision Sciences Institute, San Diego, CA (November 23-26).

Misiolek, N., & Wilemon, D. (2002). Cross-border alliances in transition and emerging economies. Paper presented at the Pan-Pacific Conference XIX, Bangkok, Thailand (May 23-28).

Misiolek, N., & Smith, K.A. (2000). Agency and stewardship: Where's the problem? Paper presented at the annual meeting of the Decision Sciences Institute, Orlando, FL (November 19-21).

Misiolek, N., & Wilemon, D. (2000). Distributed teams: Managing the dynamics of global teamwork. Paper accepted for presentation at the annual meeting of the Institute for Operations Research and the Management Sciences (INFORMS), San Antonio, TX (November 3-5).

Misiolek, N., & Wilemon, D. (2000). Issues in Internet deployment for new product development. Paper presented at annual meeting of the Product Development Management Association (PDMA), New Orleans, LA (October 14-15).

RESEARCH & TECHNICAL REPORTS

Misiolek, N., Stam, K., & Stanton, J. (2002, October). SISE technical report: PC and equipment upgrade and costs. A report prepared for CNY-COSH. Syracuse, NY: Syracuse Information Systems Evaluation Project, School of Information Studies, Syracuse University.

Annabi, H., Dhosi, S., **Misiolek, N.,** Stam, K., Stanton, J., & Zakaria, N. (2001, December). SISE research report: Staff reactions prior to proposed information technology changes. A report prepared for the Onondaga Pastoral Counseling Center. Syracuse, NY: Syracuse Information Systems Evaluation Project, School of Information Studies, Syracuse University.

Misiolek, N., Stam, K., & Stanton, J. (2001, October). SISE technical report: PC upgrade equipment and costs. A report prepared for University United Methodist Church. Syracuse, NY: Syracuse Information Systems Evaluation Project, School of Information Studies, Syracuse University.

COURSES TAUGHT

MARIST COLLEGE

- CSIS103L122 Information Fluency for Non-Majors
  [Fall 2006]

  3 credits. Introductory computer and information technology course for students not majority in information technology, computer science, and related fields. Weekly lecture and laboratory component. Topics include introduction of information technology, information security, societal impact of information technologies, on-line research methods, PowerPoint, spreadsheets, database construction, HTML.

- IS404L200 Systems Analysis Methods
  [Fall 2006]

  3 credits. Junior-level course in systems analysis emphasizing object-oriented systems analysis and design. Focus on the analysis phases of the systems development life-cycle. Individual and team-based case study analysis.

- MSIS647L256 Information Analysis
  [Fall 2006]

  3 credits. Master's level course in information and systems analysis. Emphasizes the analysis phases of the systems development life-cycle and appropriate methodologies for ascertaining user requirements and eliciting user feedback. Team case analysis. Development and presentation of a formal systems analysis proposal.

SYRACUSE UNIVERSITY

- *IST 195 Information Technologies (Laboratory)*
  [Fall 2005/Spring 2006]

  3 sections. Required laboratory for students registered in the introductory course in information science and technology. Topics include computing basics, diagnostics, PowerPoint, Excel, Linux, Photoshop, Access, Frontpage, HTML, and ERP systems. Weekly laboratory assignments related to lecture section topics.

- *IST 322* *Information Resources Planning*
  [Summer 2001/Spring & Summer 2002/Summer 2003/Fall 2003]

3 credits. Junior-level course in strategic planning. Emphasizes applying principles and concepts of strategic management in contemporary organizational environments. Strategic role of information technologies in organizational contexts. Significant case study component; company/industry analysis.

- *IST 466* *Professional Issues for Information Management and Technology*
  [Fall 2001/Spring 2002/Spring 2004]

3 credits. Senior capstone course for undergraduate School of Information Studies majors and minors. Emphasis on information technology and the role of information professionals in organizational environments. Case study method is the primary instructional method. Emphasizes the development and application of analytic skills required to solve real-world managerial problems.

- *SHR 447* *Business Policy & Strategy*
  [Fall 2000/Spring 2001]

3 credits. Senior capstone course for undergraduate Whitman School of Management majors and minors. Emphasizes the analysis of unstructured managerial problems that require application of knowledge and insights gained from all portions of the management curriculum. Case problems and The Business Strategy Game involving consideration of all aspects of an organization rather than emphasizing a single functional discipline.

TEACHING ASSISTANT

- *EEE 370* *Introduction to Entrepreneurship and Emerging Enterprises*
  [Fall 1998/Spring 1999]

3 credits. Junior-level introductory course in the Entrepreneurship and Emerging Enterprises Program at the Whitman School of Management, Syracuse University. Responsible for assessment of pedagogical effectiveness of pilot sections of the course in conjunction with an ongoing curriculum development effort funded by a grant from the General Electric (GE) fund.

INVITED LECTURES

- Patterns of Emergent Leadership in Virtual Teams (with R. Heckman), October 1, 2004. Brownbag seminar, School of Information Studies, Syracuse University.
- Financial Analysis: A Practical Random Walk. Guest lecture and workshop, School of Information Studies Graduate Organization (ISTGO), November 17, 2003. School of Information Studies, Syracuse University.
- Why Trust? Interpersonal Dynamics in the Online Environment (April 2003). Guest lectures in IST 649/449 [Human-Computer Interaction], School of Information Studies, Syracuse University.
- Human Factors and Technology Acceptance (April 2002). Guest lecture in IST 449 [Human-Computer Interaction], School of Information Studies, Syracuse University
- Strategic Alliances and Outsourcing (Spring 2001). Guest lecture in IST 322 [Strategic Planning in Information Environments], School of Information Studies, Syracuse University.

CURRICULUM DEVELOPMENT

- *EEE 370 Introduction of Entrepreneurship & Emerging Enterprises.*

  3 credits. Junior-level introductory course in the undergraduate Entrepreneurship & Emerging Enterprises Program at the Whitman School of Management, Syracuse University. Lead project coordinator for interdisciplinary curriculum development team effort funded by a grant from the General Electric (GE) Fund with Prof. David Wilemon, Prof. Clint Tankersley, Dr. Peter Gray, Dr. Ruth Stein, & Bronwyn Adam. Developed instructional manual, supplemental instructional materials, authored yearly reports to the GE Fund, and revised course structure to facilitate teaching multiple sections of the introductory course.

- *EEE 457 Strategic & Entrepreneurial Management.*

  3 credits. Senior capstone course for Whitman School of Management majors and minors at Syracuse University. Lead project coordinator for interdisciplinary curriculum development team effort funded by a grant from the General Electric (GE) Fund with Prof. David Wilemon, Prof. Clint Tankersley, Dr. Peter Gray, Dr. Ruth Stein, & Bronwyn Adam. Developed course prospectus and instructional manual, and authored reports to the GE Fund.

- *Whitman School of Management Integrated Learning Project*.

  Joint curriculum development effort between the staff of the Center for the Support of Teaching and Learning and faculty members from the Whitman School of Management at Syracuse University funded by the General Electric (GE) Fund. Focus is on the development and implementation of a Core Course Integration Model

that integrated three junior-level core courses in three functional disciplines – marketing, finance, and supply chain management. Compiled and integrated team input for Year 1 and Year 2 reports.

- *Management of Technology Program, Whitman School of Management.*

  The Management of Technology Program is a graduate-level program administered by the Whitman School of Management at Syracuse University. The objective was to conduct an exhaustive examination of similar programs at the graduate and undergraduate levels at other colleges and universities throughout the United States. The results of the investigation were presented to the faculty of the Whitman School of Management in an internal report.

GRANTS AND CONTRACTS

1999. $300 grant from the Earl V. Snyder Center for Innovation Management Research, Whitman School of Management, Syracuse University (with Mousumi Bhattacharya and Kathleen Wheatley). Funding used to conduct research project, "A Meta-Analysis of the Antecedents of New Product Development Success."

HONORS AND AWARDS

- Seattle Innovation Symposium (Invited attendee), The University of Washington, Seattle, WA, September 13-15, 2005.
- GAANN (Graduate Assistance in Areas of National Need) Fellowship, 2003-2005.
- Teaching Associate, School of Information Studies & The Graduate School, Future Professoriate Program, Syracuse University, 2001-2006.
- Organization & Management Theory Division, Academy of Management, 2005 ABCD (Above & Beyond the Call of Duty) Award (Presented to the best reviewers of papers submitted to the division for the annual Academy of Management meeting.).
- 2004 ICIS (International Conference on Information Systems) Doctoral Consortium, Charlottesville, VA, December 2004.
- 2004 AMCIS (Americas Conference on Information Systems) Doctoral Consortium, New York, August 2004.
- H.W. Wilson Award (travel grant) for conference paper presentation, April 2004.
- Organizational Communication and Information Systems/Technology Innovation Management (OCIS/TIM) Doctoral Consortium, Academy of Management Annual Meeting, Seattle, August 2003.
- Research Assistant, School of Information Studies, Syracuse University, 2002-2003, 2005-2006.
- Teaching Assistant, Strategy and Human Resources Management Department, Whitman School of Management, Syracuse University, 1999-2001.

- Graduate Assistant, Entrepreneurship & Emerging Enterprises Program, Whitman School of Management, Syracuse University, 1997-1999.

PROFESSIONAL ASSOCIATIONS AND MEMBERSHIPS

- The Academy of Management (AOM)
  Divisions: Organizational Communication & Information Systems, Technology & Innovation Management, Organization & Management Theory, Organization Change & Development
- Association for Computing Machinery (ACM)
- Association for Information Systems (AIS)
- Institute for Electronics and Electrical Engineers (IEEE)
- International Association for the Management of Technology (IAMOT)

PROFESSIONAL SERVICE

Academy of Management

- Reviewer, Organizational Communication and Information Systems Division, 2003-2007, Academy of Management Annual Meetings.
- Reviewer, Organization Management and Theory Division, 2002-2007, Academy of Management Annual Meetings.
- Reviewer, Technology and Innovation Management Division, 2001-2007, Academy of Management Annual Meetings.

Association for Information Systems (AIS)

- Reviewer, AMCIS2002, Human-Computer Interaction Track, 2002 Americas Conference on Information Systems.

Decision Sciences Institute

- Reviewer, Strategy and Policy Track, 2001 Decision Sciences Institute Annual Meeting.
- Reviewer, Strategy and Policy Track, 2000 Decision Sciences Institute Annual Meeting. Graduate School, Future Professoriate Program, Syracuse University
- Future Professoriate Program, Annual Minnowbrook Conference, Future Professoriate Program/Preparing Future Faculty, Planning Committee, 2003.Management Information Science Quarterly (MISQ)
- Reviewer, 2003-present, School of Information Studies, Syracuse University
- Curriculum Committee, 2001-2002 Academic Year
- Undergraduate Committee, 2002-2003 Academic Year
- Personnel Committee, 2003-2004 Academic Year.
- Multicultural Week Planning Committee, 2003-2004 Academic Year.
- Academic Assessment Committee, 2003-2004 Academic Year.

Russell W. Robbins

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APPOINTMENTS AND POSITIONS

Marist College
2005-date *Assistant Professor of IS,* School of Computer Science and Mathematics

Rensselaer Polytechnic Institute
2003-2005 *Courtesy appointment,* Faculty of Information Technology
2001-2005 *Clinical Assistant Professor of MIS,* Lally School of Management & Technology
1999-2000 *Adjunct Instructor of MIS,* Lally School of Management & Technology
1997-2000 *Systems Analyst,* Administrative Information Services

Achaean Technology, Inc.
1998-2000 *President/Co-founder*

International Business Machines, Inc.
1990-1994 *Accountant*

United States Army
1985-1987 *Active Duty*

EDUCATION

Ph.D.	Rensselaer Polytechnic Institute	Engineering Science	2005
M.S.	Rensselaer Polytechnic Institute	Information Technology	2004
M.S.	Binghamton University	Accounting	1997
B.S.B.A.	University of Missouri	Finance	1990

RESEARCH AREAS

Computational Modeling, Multi-agent Systems, Decision Support Systems, Business Ethics

TEACHING AREAS

Research Areas + Software Engineering, Project Management, Field Projects, Applications

AWARDS

One of four finalists in the 2004 Excellence in Ethics: Dissertation Proposal competition at the Institute for Ethical Business Worldwide in the Mendoza College of Business at the University of Notre Dame.

REFEREED JOURNAL PUBLICATIONS

Robbins, R.W., and Wallace, W.A. (in press, available online 25 April 2006). "Decision Support for Ethical Problem Solving: A Multi-agent Approach." *Decision Support Systems.*

REFEREED CONFERENCE PUBLICATIONS

Robbins, R.W., Wallace, W.A., and B. Puka, (2004). "Supporting Ethical Problem Solving: An Exploratory Investigation." *Proc. 2004 ACM SIGMIS CPR,* pp. 134-143. ACM Press.

INVITED PRESENTATIONS BASED UPON REFEREED EXTENDED ABSTRACTS OR PAPERS

Robbins, R.W. (December 2006) "Towards Developing Descriptive Ethics Theories for Management Science: Using Interdisciplinary Research and Information Systems." 2006 International Federation for Information Processing Working Group 8.2 Organizations and Society in Information Systems (OASIS) Pre-ICIS Workshop, Milwaukee, WI.

Robbins, R.W. and Wallace, W.A. (November 2006). "A Computational Model of a Group of Individuals Resolving an Ethical Dilemma: Virtual Experiments." 2006 Institute for Operations Research and the Management Sciences Annual Meeting, Pittsburgh, PA.

Robbins, R.W. and Wallace, W.A. (August 2006). "Decision Support for Ethical Problem Solving: A Multi-agent Approach." 2006 Americas Conference on Information Systems MIS Camp. Acapulco, Mexico.

Robbins, R.W. and Wallace, W.A. (October 2005). "Describing Ethical Problem Solving Dynamically: A Computational Modeling Approach." Ethics: The Guiding Light - The 12th Annual International Conference Promoting Business Ethics, St. Johns University, New York, NY.

Robbins, R.W. and Wallace, W.A. (December 2004). "Towards Supporting Ethical Problem Solving in Individuals and Groups: Foundations for a Computational Modeling Approach." Association for Information Systems SIGDSS workshop "Expanding the Boundaries for Decision Support Systems" pre-2004 International Conference on Information Systems. Association for Information Systems. Washington, D.C.

Robbins, R.W. (November 2004). "Understanding Individual and Group Ethical Problem Solving: A Computational Modeling Approach." 2004 Excellence in Ethics: Dissertation Proposal competition at the Institute for Ethical Business Worldwide in the Mendoza College of Business at the University of Notre Dame, Notre Dame, IN.

Robbins, R.W. (August 2004). "Understanding Ethical Problem Solving in Individuals and Groups: A Computational Modeling Approach." 2004 America's Conference on Information Systems (AMCIS) Doctoral Consortium, New York, NY.

Robbins, R.W., Wallace, W.A., and Puka, B. (June 2003). "The Ethical Assistant: A Decision Aid for Ethical Problem Solving." Fifth Annual Computer Ethics, Philosophical Enquiry Conference. International Society for Ethics and Information Technology. Boston, MA.

Robbins, R.W., Wallace, W.A., and Puka, B. (April 2003). "Supporting the Ethical Problem Solving Process with Information Technology." Promoting Ethics in Operations Research workshop, hosted by the EURO WORKING GROUP PROMETHEUS on Ethics in OR, Fontainebleau, France.

Robbins, R.W. and Wallace, W.A. (April 2003). "Modeling the Social Dynamics of Individual Ethical Behavior." Promoting Ethics in Operations Research workshop, hosted by the EURO WORKING GROUP PROMETHEUS on Ethics in OR, Fontainebleau, France.

PAPERS IN PREPARATION

Robbins, R.W., and Wallace, W.A. "Decision Support for Ethical Problem Solving: An Experiment." Target: *Journal of Management Information Systems*.
Robbins, R.W., and Wallace, W.A. "Simulating a Group of Individuals Resolving an Ethical Dilemma: Virtual Experiments." Target: *MIS Quarterly.*

Robbins, R.W., and Wallace, W.A. "Ethical Problem Solving: Values, Perspectives, Reasoning, and Decisions." Target: *Journal of Business Ethics.*

Robbins, R.W. "Towards Developing Descriptive Ethics Theories for Management Science: Using Interdisciplinary Research and Information Systems." Target: *Information Systems Journal.*

BOOK CHAPTERS IN PREPARATION

Robbins, R.W., Fleischmann, K.R., and Wallace, W.A. "Information Ethics: The Importance of Education and Research." *Handbook of Research on Technoethics,* The Idea Group.

OTHER RESEARCH PROJECTS

Robbins, R.W., and Wallace, W.A. "Simulating an Individual Resolving an Ethical Dilemma: A Computational Model Based Upon Five Process Studies."

Robbins, R.W., and Wallace, W.A. "Simulating a Group of Individuals Resolving an Ethical Dilemma: Interacting Computational Models and Virtual Experiments Based Upon Ten Process Studies."

COURSES DEVELOPED AND/OR TAUGHT

Information Analysis – MSIS 647: Students designed a prototype decision support system to support troubleshooting fabrication plant tools at Philips Semiconductor, Inc.

Systems Design – IS 461: Students designed a prototype software review system for IBM zSeries Tools and Technology Deployment area.

Information Technology Project Management – MGMT 4150: Students designed and developed alpha versions of decision support systems aimed at improving 1) software development, 2) data transfer, 3) testing, 4) project management, 5) proposal development, and 6) training evaluation for GE Specialty Materials, Inc. and MapInfo, Inc.

Capstone Project – MSCS 710: Students designed an alpha eVoting system for faculty governance.

Systems Development Life Cycle – IDCP 404: Completely online students designed a registration system for NSF-supported Institute for Data Center Professionals and the Center for Collaborative and On-Demand Computing.

Microcomputers and Applications – MGMT 2510: Students learned Microsoft Access and Microsoft Excel and basic topics such as computer design, binary arithmetic, file management, virus protection, Internet, LAN technology, digital media, IS history, IS products, IS careers, systems analysis and design.

Systems Analysis – IS 404
Enterprise IT Integration – MGMT 4130

NON-ACADEMIC PROFESSIONAL EXPERIENCE

1998-2000: As president/co-founder of Achaean Technology, Inc., a five-employee company, designed, developed, and marketed IS for agencies providing care to developmentally disabled and mentally retarded.
1997-1999: As systems analyst at RPI, built first data warehouse and coordinated student records conversion -- 1.4 million person/course units, 68,000 student records, 44,000 degrees.
1990-1994: As accountant at IBM, distributed $3 billion per year; Developed teams.

SERVICE AND OTHER PROFESSIONAL ACTIVITIES

2006-2007: Co-chair, AMCIS mini-track, "Human Characteristics, Ethics, and the Decision Environment.
2006-2007: Co-lead, IS Discipline Self-assessment.
2006-date: Coordinator, Information Systems Discipline, SCSM, Marist College
2006-date: Ad hoc reviewer, ICIS
2006-date: Ad hoc reviewer, Journal of Business Ethics
2005-date: Ad hoc reviewer, OMEGA
2005: Member, Information Systems Discipline Committee, SCSM, Marist College
2005: Member, MS Technology Management Committee, SCSM, Marist College
2005: Member, Middle States Assessment Committee, SCSM, Marist College
2004-date: Ad hoc reviewer, Communications of the ACM
2003-2005: Faculty Intervention Program Mentor, Rensselaer Polytechnic Institute
2003-2005: Member, IT Oversight Committee, LSM&T, Rensselaer Polytechnic Institute
2001-2005: Member, MIS Curriculum Committee, LSM&T, Rensselaer Polytechnic Inst.
2002: Computational Analysis of Social and Organizational Systems Summer Institute, Carnegie Mellon University
2002: RePast (Java-based Agents) Workshop, University of Chicago
2001-2004: Board Member, Singles Outreach, Inc.

AFFILIATIONS

AIS, ACM, INFORMS, IEEE Computer Society, Academy of Management

Appendix L: Results from BSIS Alumni Survey

Job Titles	
Customer Relations Manager	1
Information Tech / Leadership Development & Program Participant	1
Manager	7
Network Engineer II	1
Programmer Analyst	3
Senior Business Analyst	1
Senior HR Technical Generalist	1
Senior Media Developer	1
Senior Project Manager	1
Software Engineer	2
Software Team Manager	1
Systems Administrator	3
Systems Analyst/Acting ISO	1
Systems Integrator	1
Technician Specialist	1
Test Leader	1
Total	**27**

Company / Corporation	
IBM	5
Accenture	1
Admiral Insurance	1
Citigroup	1
Crickery Wood	1
Dutchess Cty Government	1
Employees Retirement System of Texas	1
GHI HMO	1
Harris Methodist Ft. Worth Hospital	1
I.B.S.	1
IMS Health	1
Kennedy Information	1
Nielsen Media Research	1
NYS Office for Technology	1
Ordermotion, Inc.	1
Pearson Publishing	1
Precision Care Software	1
Sports Net New York	1
Travelers Insurance	1
Twomey Latham Shea Dubin & Quartararo LLP	1
Watson Wyatt	1
Werner Media, LLC	1
Westchester Community College	1
Total	**27**

Comments:

1. All classes were excellent, however, I strongly recommend including multiple modeling techniques in the analysis courses especially UML and VSE (if not already included). UML and XML were initially developed while I was still attending Marist and training would have been helpful.
2. Additionally, please let the students know that the general model is for companies to outsource their IT staff more and more to consulting companies.
3. Offering industry-specific courses (insurance, banking, etc.) that mimic "real world" experience would be helpful.
4. The course of Problem Solving and Programming, next to IS Project, was probably the best course and I use the principle's taught daily.
5. I don't believe we explored enough into the different types of Data Management and too much time was spent on actually coding DB Management.
6. If I remember correctly, MIS course spent too much time on the specific rationality of an outdated computer. An overall Architect of business systems including HW/SW/servers should have been the focus.
7. Most of the problems we have with data are Data Migration - moving data from one environment to another.
8. My comments of the overall curriculum and program are that I liked the gradual introduction of systems and computers. The later courses built upon that knowledge and required reuse of it, which helped with the retention. Overall the common thread for me was the teaching staff. Each earned my respect and I therefore became inspired to excel and learn more. The staff was all focused on completed work, as opposed to allowing us to hand-in incomplete assignments. This is more of a life lesson than anything, but it has paid off time and again since I've left Marist. This program is certainly one of the key foundations of knowledge from which I continue to build off of today.
9. More of Data Management would have been better which is a needed core component. Formal Project Management is another core competency that has high value and use.
10. I understand time constraints but I've found myself wishing that Data Communications involved practicalities like CAT-5 making and wiring fiber optics.
11. Architecture HW /SW is useful for programming, helpful for dealing with mainframes, and indispensable for help desk work.
12. I've recently received praise from the Director of IT thanks to the skills learned in System Analysis.
13. IS Policy is the keystone of the IS degree. One of the most enjoyable, informative and useful courses I've taken at Marist.
14. Architecture HW /SW should require more hands on.
15. In your Problem Solving and Programming course, I was not interested in COBOL. Hopefully, different language is used and more SQL should be taught. Three weeks of SQL is not enough.
16. Would have liked to see LABS with Architecture HW/SW to apply the knowledge to real world hardware.
17. Systems Designs was probably the most important course that I took, where it was translated well to the workforce. Programmers still don't get consistency.

18. IS Concepts was a good introduction course but more subject matter needed. Systems Analysis and Systems Design are the two courses that are the foundation of the program. IS Project had a very good introduction to managing small projects. More emphasis should be placed on the diversity of work streams within projects.

19. Data Management helped me learn 3NF and how to organize data. Systems Analysis helped me learn process flows, understand systems development life cycle and IS Policy help me learn to ask critical questions.

20. In my IS Concepts course, I had a good professor and the IS Project's course gave me good real experience with project.

21. IS Policy is an ideal course which added depth to the IS degree. It's a field that is heavily used in today's tech world.

22. Problem Solving and Programming is one of the few programming courses that I enjoyed and honed my IT skills. I found Data Communication to be a very helpful course and is applicable within building LAN's and WAN's. In Architecture HW/SW, more technical courses needed as this gives students more options if they are not interested in programming.

23. More lab time is needed in the Problem Solving and Programming classes and more technical information is needed in Data Communication. The Architecture HW/SW was a great class.

24. Data Management courses should have more emphasis on SQL skills and IS Policy course needs more technical emphasis.

25. Although the IS program isn't structured for learning programming, programming languages aren't current. Learned Visual Basic, COBOL, C++ while at Marist. XML, PHP, Perl, JAVA, Ajax and using an IDE line Dreamweaver and Eclipse would help. Data Management would have been excellent if we got to work with a real work DBZ or even my SQL database and examples, instead we only worked with theory and design. In Data Communication, we actually saw a working AT & T Central office in Poughkeepsie.

26. In Architecture and Systems Design courses, it was very old technology taught. Technology changes very fast so textbooks and material need to be current. Creating a real world project, highlights which students have outside experience and those that are text book taught. These differences show that the IS program needs to be current. The IS Policy actually prepared students for real world jobs and creates a professional working attitude.

27. Material covered in IS concepts was too abstract and there was not enough practical experience. Problem solving and Programming was a good introduction to another programming language. What I learned in Data Management has been vital in my role as a database designer administrator. It could cover more "best practices" for relational DB Design.

28. Data Communication course was a good introduction to networking. Having a basic knowledge of this is necessary for understanding distributed applications. Also, the lab should be required. The Architecture course provided a basic understanding for programming.

29. The Systems Analysis course was vital to my job. Understanding how to analyze customer's processes is crucial. There should be a more in-depth project in this course. Systems Design offered good instruction for bringing analysis and ideas together to create a well flowing system. A suggestion would be to have a large project that spans the analysis and design courses. I found IS Policy to be important for understanding some of the deeper issues of IS and how to add value for customers.

30. IS taught me to perform business presentations.
31. Solving business problems.
32. Learning how to learn.
33. Working in team environments.
34. I wouldn’t be where I am today without my Marist education

What was beneficial to you in having majored in Information Systems:
1. It gave me the knowledge to do anything in the IT world.
2. Allowed me to learn business analytic concepts.
3. Good career path
4. It helped me learn how to think critically
5. IS professors were great and gave us an overall understanding in a field where IS majors were in high demand.
6. Having knowledge in IS Systems has given me the ability to bring more to my role as a Human Resource professional.
7. It gave me more diverse career opportunities.
8. Emphasis was on seeing the big picture and the technical training was diverse which is an asset in business.
9. It has given me the ability to take a project from beginning to end, due to the great all around exposure to IS concepts.
10. The broad curriculum and basic concepts have proven useful.
11. It gave me the ability to learn how to manage an IS/IT department.
12. IS gave me a very good overview of technology and business processes.
13. The overall knowledge of IS gave me the ability to accept charge and to learn and adapt to situations.
14. It was a well rounded degree and not too technical.
15. Provided a deeper understanding of the concepts which complemented my experience in networking.
16. Offers more job opportunities
17. The opportunity to be involved in the cutting edge of technology.
18. The benefits from the IS degree is that it brought my general IS knowledge together with my work experience.
19. Having a broad set of skills for the field and an understanding in business and technical side of IS helps me build stronger relationships with the customer.

What suggestions do you have for improving the Marist IS Program?
1. Additional Lab time
2. More technical courses such as Architecture HW/SW and Data Communication
3. Mandatory internships and internships with IBM
4. Other Management and Financial databases that support ESS (Employee Self Services)
5. More Hands-on Projects
6. Focus on technical aptitude and associated skill set
7. Additional Database and Programming focused classes including more difficult Math classes.
8. Provide guidance / direction related to valued professional certifications.
9. Entry level education.
10. Web services classes needed.
11. Overview of the components it takes to run a business from a technology perspective.
12. Alumni visits to get an idea of business in the real world.
13. Use current technology and working examples rather than theory and textbooks.