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# Experiences with the MSIS2000 Curriculum

John Gorgone
*Bentley College*, jgorgone@bentley.edu

Paul Gray
*Claremont Graduate University*, paul.gray@cgu.edu

# Panel: Experiences with the MSIS2000 Curriculum

John Gorgone, Department of Computer Information Systems, Bentley College, jgorgone@bentley.edu
Paul Gray, School of Information Science, Claremont Graduate University, paul.gray@cgu.edu

## Abstract

The MSIS2000 curriculum was approved in January 2000 by both AIS and ACM, with the endorsement of the other leading IS professional organizations. In the months since then, a number of institutions have adopted the curriculum while others have decided to adopt other configurations. This panel discusses the curriculum, the experiences of three schools that adopted it, and of a school that chose to go in another direction.

## Introduction

The MSIS2000 curriculum (Gorgone and Gray, 2000), issued in January 2000, is now being implemented by a number of schools. The purpose of this panel is to report on the curriculum and to share the experiences of schools that adopted either this curriculum (or an alternate one) this year. The curriculum is published in both the *Communications of AIS* (Gorgone and Gray, 2000) and in *Data Base*.

## Panelists

The panelists are:

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| George Kasper | Chair, Dept. of Information Systems, Virginia Common-Wealth University |
| Paul Rosenthal | Chair, Business Information Systems, California State University, Los Angeles |
| Walter Rodriguez | Chair, Department of Computer, Information Systems and Decision Sciences Florida Gulf Coast University |
| Donna M. Schaeffer | Assistant dean, Information Systems Management, College of Professional Studies, University of San Francisco |

## Format of the Panel

The panel will involve a brief presentation of the MSIS2000 curriculum by the panel chairs. Then, each of the panelists will discuss their experiences with the curriculum. For example, Donna Schaeffer will report on how the curriculum attracted more than twice the students expected at the University of San Francisco.

Paul Rosenthal, in describing the program at California State University at Los Angeles, will show how that program, adapted from MSIS2000 but differing from it in various details, is designed to help persons already employed in the IT field. He believes it is important to help this group (rather than people seeking to move into the field) develop their technical, communication, and managerial skills to fulfill the responsibilities of senior professional and project management positions in the industry.

Finally, the panelists will answer questions from one another and from the floor.

## The MSIS2000 Curriculum

To put the panel in perspective, the following paragraphs describe the objectives, the underlying principles that were followed, and the curriculum.

### *Objectives*

Students graduating from the MSIS program should be prepared to provide leadership in the Information Systems field. Graduates should have the following skills, knowledge, and values:

- A core of IS knowledge
- Integration of IS and business foundations
- Broad business and real world perspective
- Communication, interpersonal, and team skills
- Analytical and critical thinking skills
- Specific skills leading to a career

### *Principles*

•*Professional Degree*. The MSIS is a professional degree that integrates the information and organizational cultures. We recognize the difficulties that people trained purely in one professional culture have in communicating with each other. We believe that MS graduates should have the knowledge and sophistication to bridge the existing chasm.

•*Value Added*. The degree adds value to students studying beyond the bachelor degree. Students invest a year or more of their lives and organizations often sponsor the student financially. Both are entitled to a return on their investment.

•*Core*. The degree includes a consistent set of information systems core courses that are offered by all institutions. As a result, employers are assured that MS graduates are competent in a fundamental set of professional knowledge.

•*Flexibility*. The curriculum is flexible to accommodate students with differing backgrounds, skills, and career objectives. Full-time students with a specific background in IS should be able to complete the program in a year. Students lacking prerequisite knowledge should expect to take at most one additional year to complete the MS degree. This model (based on the curriculum architecture used by many MBA programs) allows all students to graduate with a specified level of competence.

•*Career Tracks*. The program focuses on current and emerging concepts through "career tracks." These tracks should allow students (within the competency of the faculty) to "major" in a specific subject area for which there is demand and to achieve breadth across a topic area.

•*Integration of Non-technical Skills*. Oral, written, and graphic presentation skills; promoting ideas and negotiating; people skills; business skills; team skills; customer orientation; real-world focus; and ethics and professionalism are integrated throughout the program. Each topic is important and, some might argue, each is worth a course of its own. However, given the limited time available for MS work, we believe that the appropriate way for these topics to be presented is by integrating them tightly into the courses. Furthermore, despite their importance, these topics are exceedingly difficult to teach in the abstract.

•*Unit Requirements*. The program architecture is flexible and compatible with institutional unit requirements for an MS degree. These requirements range from 30 to 60 units, depending on the individual school. Schools with long programs are able to extend their offerings beyond the 30 unit minimum to go into greater depth in the prerequisites, the core, and the career tracks.

## *The Curriculum*

The curriculum model is designed as a set of interrelated building blocks.

*Foundations*: At the foundation level, the curriculum is designed to accommodate students from a wide variety of backgrounds. In particular, the model specifies the business and information systems skills required as prerequisite to the rest of the curriculum.

*Core*: The next level, or core, is a set of primary courses. All graduates require this common core. Four of the core courses are similar in name to those in the 1982 Curriculum (Nunamaker et. al., 1982) , but the contents are a major revision reflecting the changes in the Information Systems field. A new course, on project management and change management is introduced. The core courses are:

- Data management
- Analysis, modeling, and design
- Data communications and networking
- Project and change management
- IS policy and strategy

*Integration*: A major innovation in this curriculum is in the integration component required after the core. This component addresses the increasing need to integrate a broad range of technologies and offers the students the opportunity to synthesize the ideas presented earlier and to help students implement comprehensive systems across an organization.

*Career Tracks*: Another innovation is that the program architecture is flexible to accommodate individual institutional requirements for an MS degree. This flexibility occurs at both the entry level with the foundation courses that can be tailored to meet individual needs and at the highest level where institutions and students may select specific career tracks that are representative of current organizational needs.

# Additional Considerations

## *The Audience*

For the foreseeable future, it is anticipated that MS programs will continue to attract students with a wide range of backgrounds. In traditional graduate programs, it is assumed that entering students have a common background obtained through an undergraduate degree in that field. For students entering the MSIS program, this is often not the case. Although students entering directly from undergraduate programs may have a BS degree in IS, often their degree is in computer science, business, or some other field. The MSIS program may also attract experienced individuals including IS professionals and people seeking career changes. Often this experienced group will be part-time evening students or will access the courses through a remote learning environment. The architecture of the MSIS program accommodates this wide diversity of backgrounds and learning environments. Specifically, the MSIS program is appropriate for

•New graduates with degrees in a variety of fields from business students with an IS concentration, computer science, general business degrees, and bachelor degrees in a range of fields including the humanities, social science, engineering, and physical science.

•New graduates with a BS degree in IS.
•Experienced IS professionals seeking to upgrade skills and to understand management issues.
•Professionals from many fields seeking a change in careers.
•International students.

## *The Employer's View*

Because of the wide variety of MS programs offered by universities and colleges and the wide variety of student backgrounds (see above), employers are uncertain about the knowledge, skills, and values that newly minted MSIS graduates bring to the job. One objective of the model curriculum, therefore, is to remove employer uncertainty by providing all MS degree holders with a core set of knowledge. Furthermore, to make students more employable, students take a related set of courses (reinforced with practical experience) in a particular field within information systems.

A second objective is to help overcome the skill shortage that exists and is expected to continue in the years ahead. Students graduating with an MS degree should possess enough skills that they can take on responsible rather than entry-level positions and can serve as mentors to people with lower levels of education.

## *Project and Change Management*

Two new core courses are introduced in MSIS2000: Project and Change Management and Systems Integration. The first is discussed in this subsection; the second in the following subsection.

The Project and Change Management course looks at how systems and technologies are implemented. It includes consideration of project planning, scheduling, and budgeting as well as consideration of the change management required to implement projects.

Project management is an important topic for the IS core because it is essential for success in all IS endeavors and is critically lacking in many IS organizations. Similarly, most IS projects involve transforming an organization from its existing ways of doing things. Such changes are often radical and traumatic to the people involved. Although change management may or may not be included in the business foundations organizational behavior course, students should understand and be able to implement the changes that an IS project creates. The goal of this core course is to reinforce the ideas of organizational behavior and make the relation between the technical and organizational aspects of projects more concrete for students, particularly those who come from technical backgrounds.

## *Systems Integration*

After students complete the core, they need to synthesize what they have learned. Furthermore, system integration is a pervasive aspect of IS practice. In the past, neither synthesis nor integration were included in the curriculum. The present curriculum calls for such an integration component. Integration can be viewed from three perspectives:

•Integrating the Enterprise
•Integrating the IS Function
•Integrating IS Technologies

Each perspective could merit a course of its own. The curriculum recommends that schools offer one of these courses (described below) or create a course that looks at all three perspectives. The choice depends on the capabilities of the school's faculty, the needs of regional industry, and the objectives of the students.

## *Career Tracks*

The career paths for IS professionals are more varied and dynamic than in the past. To take advantage of the available career opportunities, the advanced student must understand not only technology but also the business and environment in which it is deployed. The recommended curriculum is broader in scope and sufficiently flexible to allow institutions to provide a more focused, professional education meeting student career objectives and organizational needs.

A career track consists of four or more related electives that prepare a student for a specialization. It is anticipated that most schools will offer multiple tracks. The career track or tracks chosen by a particular school, similar to the choice of which integration course to offer, depends on the skills and interest of the faculty and student as well as industry needs. Where appropriate, especially for students with limited experience, a practicum (see below) can be used as a course within the career track.

The curriculum identifies a broad range of career tracks, ranging from the very conventional (e.g., Systems Analysis and Design) to the leading edge (e.g., Knowledge Management) to functions (e.g., Consulting) and more. Representative tracks, listed in alphabetical order below, are indicative of the possibilities but are by no means an exhaustive list.

- Academia
- Consulting
- Data Management and Data Warehousing
- Decision Making
- Electronic Commerce
- Enterprise Requirements Planning

- Global IT Management
- Human Factors
- Knowledge Management
- Managing the IS Function
- Project Management
- Systems Analysis andDesign
- Technology Management
- Telecommunications

Typically, a track consists of four related courses. Many institutions are expected to offer three classroom courses and make the fourth course a practicum, that is, a course devoted to solving a real problem for a company against a time deadline.

Tracks can be expected to change over time since the only certainty is that some tracks will become obsolete over time while new ones will emerge as the IS field changes. It is anticipated that schools will choose only a small number of tracks for their own curriculum, where the criteria for selection include local industry needs and the capabilities available within the school

In addition, tracks can (and should) be multi-disciplinary, involving courses in two or more departments, depending on the nature of the track. For example, a student following an Electronic Commerce track might take e-commerce courses in IS, marketing, economics, and management. Other examples are a teaching skills course in the Academic track might be taken in a school or department of education or a consulting in business course in the Consulting track that may be offered in a management department.

## Concluding Remarks

The model curriculum is designed to serve as a set of standards upon which individual schools can base their curriculum. It is compatible with MS programs ranging from 30 to 60 or more units offered in a variety of locations in the university, including business schools, schools of information systems, computer science departments, and liberal arts schools. By adopting this curriculum, faculty, students, and employers can be assured that MS graduates are competent in a set of professional knowledge and skills, know about a particular field in detail from the career track, and are instilled with a strong set of values essential for success in the Information Systems field. In short, it is a program that reflects current and future industry needs.

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## Appendix: Endorsing Organizations

The MSIS2000 curriculum is endorsed by the following organizations:

ACM – Association for Computing Machinery
AIS – Association for Information Systems
AITP - Association of Information Technology Professionals
DSI - Decision Sciences Institute
EDSIG - Education Special Interest Group of AITP
IACIS - International Association for Computer Information Systems
IAIM - International Academy for Information Management
INFORMS College on Information Systems
SIM - Society for Information Management

## References

Gorgone, J. and Gray, P. (eds.) “MSIS2000: Model Curriculum and Guidelines for Graduate Degree Programs in Information Systems,” *Communications of AIS* (3:1), January 2000.

Gorgone, J. and Gray, P. (eds.) “MSIS2000: Model Curriculum and Guidelines for Graduate Degree Programs in Information Systems,” *Data Base* Spring 2000.

Nunamaker, Jr., J. F., Couger, J. D., and Davis, G. B. (Eds.). "Information Systems Curriculum Recommendations for the 80s: Undergraduate and Graduate Programs," *Communications of the ACM* (25:11), November 1982, pp. 781-805.