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Keywords: MSIS2000, capstone, information systems, model curriculum

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Strategy Course and Integration Course Redundancy in the MSIS2000 Model Curriculum

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Abstract

The MSIS2000 Model Curriculum proposes two courses, MSIS2000.5 Policy and Strategy and MSIS2000.6 Integration, as capstones to the Master of Science in Information Systems (MSIS) degree program. A single masters degree capstone or culminating experience is normally taught to provide an integrative, synthesizing experience. The model curriculum also defines the scope of the capstone experience to include: What to Build (MSIS2000.6.1), How to Manage IS (MSIS2000.6.2), and How to Build It (MSIS2000.6.3).

This paper contends that:

- MSIS2000.6.1 Integrating the Enterprise, is redundant with most of MSIS2000.5 IT Policy and Strategy;
- MSIS2000.6.2 Integrating the IS Function, includes most of MSIS2000.4 Project and Change Management; the CIO roles portion of MSIS2000.5; and the managerial portions of MSIS2000.2 Analysis, Modeling and Design; and
- MSIS2000.6.3 Integrating IS Technologies includes much of a technical course in Design and Development of IS Enterprise Architectures as well as most of MSIS2000.5 IT Policy and Strategy.

This paper, therefore, proposes 1) minor revisions and expansion of the Policy and Strategy course to clearly define it as the Capstone course, and 2) changing the Integration Course(s) to emphasize Consulting, Planning, Design, Development and Management of IS Enterprise Application and Infrastructure Architectures.

Keywords: MSIS2000, capstone, information systems, model curriculum

1. OVERVIEW OF THE MSIS2000 MODEL CURRICULUM

The MSIS 2000 Model Curriculum (Gorgone and Gray 2000) proposes a ten course (30 semester hour) program with three required technical courses, three required management courses and four elective courses (part of a career path option). A copy of the recommended courses follows as an attach-

ment. It assumes a basic background in information systems (IS) and management that includes programming, data management, and hardware/software architecture IT courses as well as financial accounting, marketing and organizational behavior management courses. However, no professional level experience in information systems or related disciplines is required.

The required MSIS2000 core technical courses include:

- Data management
- Analysis, modeling and design
- Data communications and networking

The required MSIS2000 core management courses include:

- Project and change management
- IS policy and strategy (MSIS2000.5)
- Integration of the IS function, IS technologies and the enterprise (MSIS200.6.4)

2. OBJECTIVES OF THE MSIS2000 MODEL CURRICULUM

MSIS graduates should have the following characteristics as stated in the paper by Gorgone and Gray (Gorgone and Gray 1999), two of the authors of the MSIS2000 model curriculum:

- A broad business and real world perspective
- Good communication, interpersonal, and team skills
- Good analytical and critical thinking skills
- An integration of IT & business foundations
- A broad core of advanced IS knowledge

These objectives do not include training in the primary jobs the MSIS graduates are preparing for: consulting, project management and the CIO position. Our program at Cal State LA (CSLA 2002) has therefore added the additional objectives,

- Specific high level skills in project management, consulting, and assessment that are needed for career upgrades and promotion within the IS/IT profession.
- A minimum of two years of professional level experience in information systems or a related discipline (frequently telecommunications or computer science).

3. A COMPARISON OF THE TWO CAPSTONE SYNTHESIS COURSES

This paper contends that the Policy and Strategy course and the Integration course(s) cover the same material and should be combined into a one or two semester capstone course (SFS-PAP 2003).

The Policy and Strategy course (MSIS2000.5) is described in the model curriculum as follows.

"The top management, strategic perspective for aligning competitive strategy, core competencies, and information systems. The development and implementation of policies and plans to achieve organizational goals. Defining the systems that support the operational, administrative, and strategic needs of the organization, its business units, and individual employees. Approaches to managing the information systems function in organizations, including examination of the dual challenges of effectively controlling the use of well-established information technologies, while experimenting with selected emerging technologies. Role of the CIO."

The curriculum suggests that this course be case based and share the role of Capstone with the Integration course.

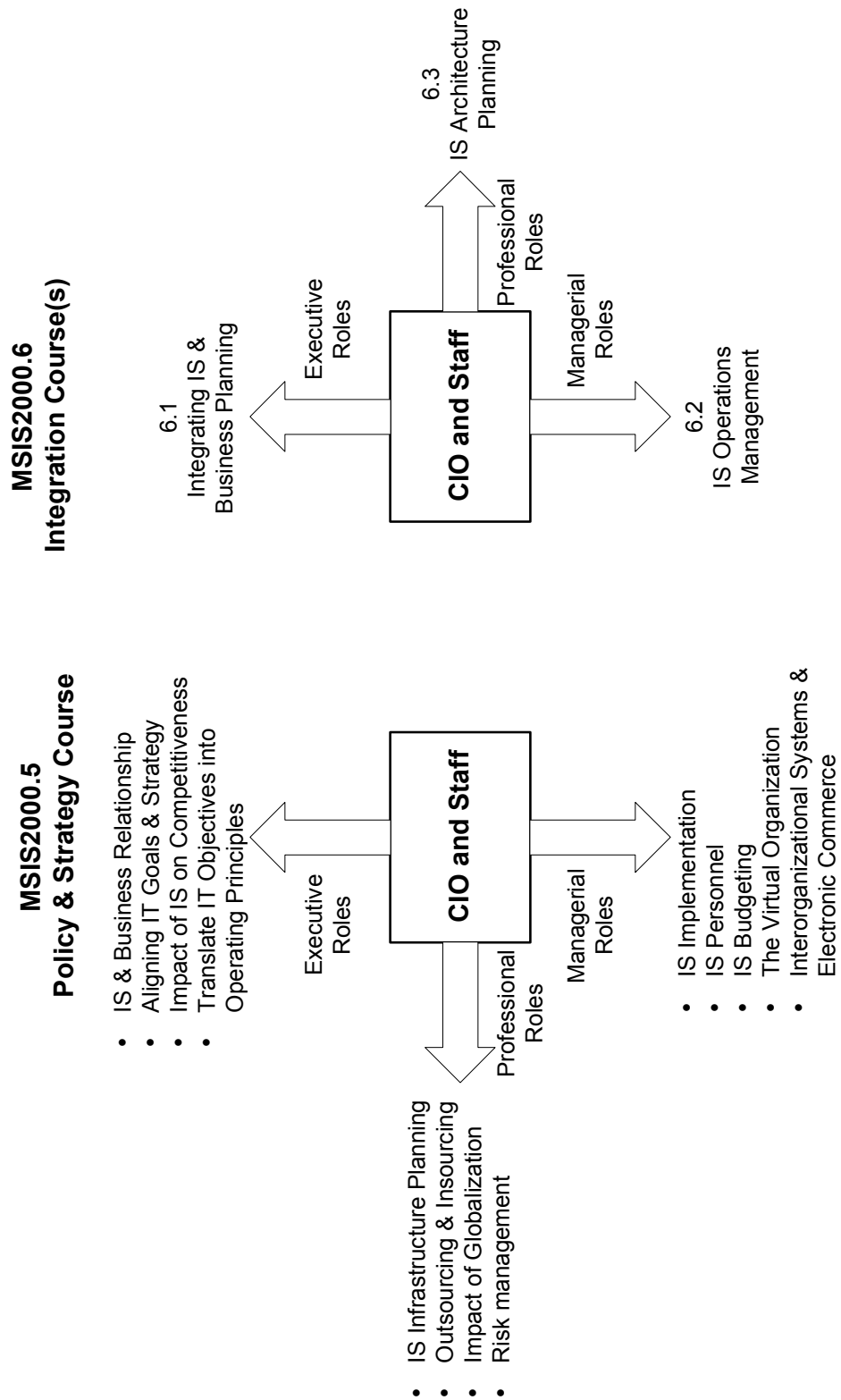
The Integration course (MSIS2000.6) is proposed in four different versions.

- 6.1 Integrating the Enterprise
- 6.2 Integrating the IS Function
- 6.3 Integrating IS Technologies
and the combination of the above,
- 6.4 Integrating the Enterprise, IS Function, and IS Technologies

"The course objective is to (1) provide a systems-oriented view of the organization and its relation with suppliers and customers, (2) address the IS function within the firm, and (3) show how disparate computer platforms and networks can be integrated to provide a flexible and efficient infrastructure for the organization. This course addresses both the WHAT and HOW of integration."

The following page includes Figure 1, whose diagrams compare the two courses scope and content. Note the similarity of the two courses. A comparison of several text and case books in the area of the roles of the CIO office cover the same topical areas: the "strategic, tactical, and operational responsibilities of the CIO" (Luftman 2004).

Figure 1: A Comparison of MSIS2000.5 and MSIS 2000.6



4. OVERVIEW OF THE MSIS2000 MODEL CURRICULUM

The MSIS 2000 Model Curriculum proposes a ten course (30 semester hour) program with three required technical courses, three required management courses and four elective courses (part of a career path option). A copy of the recommended courses follows as an attachment. It assumes a basic background in information systems (IS) and management that includes programming, data management, and hardware/software architecture IT courses as well as financial accounting, marketing and organizational behavior management courses. However, no professional level experience in information systems or related disciplines is required.

Given the similar content of the courses, two alternatives are available: devote 20% of the program to the role of the CIO, or replace one of the Capstones with a course related to one of the primary job areas MSIS graduates crave – consulting.

4. Implementing the Two Capstone Course Option

During planning discussions for our MSIS at CSLA, the option of a two course sequence was considered (CSLA 2002). The initial course would be a seminar-based version of the Integration course (MSIS2000.6.4) using the Luftman CIO jobs based text (Luftman 2004), followed by a case-based version of the Strategy course (MSIS2000.5) using the Harvard case-based text (Applegate 2002).

We rejected this option, since we believe that a management area utilizing 40% of the MSIS curriculum, including an MIS course, a project management course, a consulting course, and the strategy course, was sufficient. Including this option would utilize half the curriculum for management-oriented courses and would therefore compete with our MBA program-IS Option. Our approach was presented and evaluated at a MSIS2000 panel at AMCIS 2000 in Long Beach, California, and was well received by the attendees (Chung 2000).

5. IMPLEMENTING A SINGLE CAPSTONE COURSE OPTION

The primary immediate job goals of our MSIS students are consulting, project management and assessment. Those students aiming for line management positions enroll in our MBA-IS option program (CSLA 1993). The MSIS Model Curriculum already requires a Project and Change Management course. The Integration course was replaced with our most popular MSIS course, IS/IT Consulting.

CIS 583 Information Systems Consulting

Planning and assessment of Information Systems feasibility, development, and infrastructure consulting projects. Analysis of case studies of information-age organizations.

The MSIS program at Cal Sate LA has therefore combined the content of both Capstone courses into the following management oriented, case taught course.

CIS 590 IS/IT Policy and Strategy

Discussion of the strategic perspective for aligning organizational strategy, core competencies, and information systems and technology. Partnership roles of the CEO and CIO.

We have been considering using the ICCP sponsored CDP certification examination as both the final exam for this course and as a replacement for the comprehensive examination. However, the cost of the CDP option has caused an indefinite delay of this approach.

6. SUMMARY AND RECOMMENDATIONS

Is there room for two Capstone courses in the MSIS program? The author's opinion is

- No, if you keep the four course career track,
- Yes, if you delete the career track and keep the MSIS a generalist program.

We have deleted the career track from the model curriculum, added required MIS and Architecture courses, and provided electives and special topics courses in such areas as consulting, controlling and auditing, DSS, e-commerce, Web planning and design, LAN

administration, Security, Knowledge systems, and Applications.

Why have we deleted the career track? We believe that the MSIS should be a generalist degree. The model curriculum's recommended four course career tracks include:

- consulting and systems integration, *the Project Management and Consulting courses cover this area*
- software development, *the Project Management and the Analysis, Modeling and Design courses cover this area*
- networking, telecommunications, and computing infrastructure, *the Data Communications course and our LAN Administration course cover this area*
- electronic commerce, and *the Policy and Strategy course and our E-Commerce course cover this area*
- consumer products and services. *one of many business areas with applicable courses in our Finance, Management, and Marketing option areas of our MBA program.*

A two course career type option is therefore already available in our MSIS program at CSLA. Therefore deleting the career option has a minor impact for students interested in some level of specialization.

Deleting the career option would allow room for a two sequence capstone course, except that the curriculum recommendation is already short in both the technical and management skills areas needed to meet the immediate employment needs of our graduate students. We recommend that you consider our approach at Cal State Los Angeles.

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ATTACHMENT
MSIS2000 COURSES AS PROPOSED IN THE MODEL CURRICULUM

MSIS2000.1 DATA MANAGEMENT

The concepts, principles, issues and techniques for managing corporate data resources. Techniques for managing the design and development of large database systems including logical data models, concurrent processing, data distribution, database administration, data warehousing, data cleansing, and data mining.

MSIS2000.2 ANALYSIS, MODELING AND DESIGN

Systems development life cycle; analysis and design techniques; information systems planning and project identification and selection, requirements collection and structuring, process modeling, data modeling, design of interface and data management, system implementation and operation, system maintenance, and change management implications of systems. Globalization issues in systems. Students will use current methods and tools such as rapid application development, prototyping, and visual development.

MSIS2000.3 DATA COMMUNICATIONS AND NETWORKING

Telecommunications fundamentals including data, voice, image, and video. The concepts, models, architectures, protocols, standards, and security for the design, implementation, and management of digital networks. Essentials of local area networks (LAN), metropolitan area networks (MAN), and wide area networks (WAN). Transmission and switching efficiency. Regulatory and technical environments. Topics include security and authentication, network operating systems, e-commerce and associated web sites and practices, and middleware for wireless systems, multimedia, and conferencing.

MSIS2000.4 PROJECT AND CHANGE MANAGEMENT

Managing projects within an organizational context, including the processes related to initiating, planning, executing, controlling, reporting, and closing a project. Project integration, scope, time, cost, quality control, and risk management. Managing the changes in organizations resulting from introducing or revising information systems. Identifying project champions, working with

user teams, training, and documentation. The change management role of the IS specialist.

MSIS2000.5 IT POLICY AND STRATEGY

The top management, strategic perspective for aligning competitive strategy, core competencies, and information systems. The development and implementation of policies and plans to achieve organizational goals. Defining the systems that support the operational, administrative, and strategic needs of the organization, its business units, and individual employees. Approaches to managing the information systems function in organizations, including examination of the dual challenges of effectively controlling the use of well-established information technologies, while experimenting with selected emerging technologies. Role of the CIO.

MSIS2000.6 INTEGRATION

System integration is a pervasive aspect of IS practice. Furthermore, students need to synthesize what they learn in the core. In the past, neither integration nor synthesis were included in the curriculum. The MSIS2000 curriculum calls for a capstone component that focuses on integration and draws together many aspects of previous core courses.

MSIS2000.6.1 INTEGRATING THE ENTERPRISE

Information systems role in transforming organizations and industries. An integrated view of the organization from an external and internal perspective. IS's internal role in integrating the enterprise through a cohesive set of business processes and functional applications to meet business needs. Enterprise resource planning and enterprise functionality. Collaborative systems. Consideration of external relations with suppliers, out-sourcers, and customers.

MSIS2000.6.2 INTEGRATING THE IS FUNCTION

The tactical/operational responsibilities and roles of the CIO. Governance considerations that link the IS-business organizations. Current/emerging issues in creating and coordinating the key activities necessary to manage the day-to-day operations of the IS function. Coordinating skills and organizational IS infrastructure.

MSIS2000.6.3 INTEGRATING IS TECHNOLOGIES

Development of an integrated technical architecture (hardware, software, networks, and data) to serve organizational needs in a rapidly changing competitive and technological environment. Technologies for intra and inter organizational systems.

MSIS2000.6.4 INTEGRATING THE ENTERPRISE, IS FUNCTION AND IS TECHNOLOGIES

This course combines the three integration courses described previously:

- Integrating the Enterprise
- Integrating the IS Function
- Integrating IS Technologies



Dr. Paul Rosenthal is a Professor of Information Systems at California State University, Los Angeles. He teaches a wide variety of undergraduate and graduate courses in the areas of management Information Systems, Systems Planning and Design, IS/IT Architecture, IS/IT Project & Change Management, and Consulting. In addition to his University duties, he is an active management consultant in the areas of: business process re-engineering, feasibility studies, information systems planning, data and processing architecture planning, and business resumption planning.