December 1999

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Recommended Citation  
Holmes, Monica and Hayen, Roger, "The Master of Science in Information Systems in a Regional Midwestern University" (1999).  
*AMCIS 1999 Proceedings*. 68.  
[http://aisel.aisnet.org/amcis1999/68](http://aisel.aisnet.org/amcis1999/68)
The Master of Science in Information Systems in a Regional Midwestern University

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Abstract

Graduate programs in information systems are gaining in popularity, partly because of the demand for professionals with expertise to work with electronic commerce and on the web, solve the Y2K problems, and implement enterprise software. A newly established graduate degree program at a large regional midwestern university has seen increased interest from students and companies because of the SAP R/3 initiative undertaken by the College of Business Administration. The MIS faculty are interested in offering a graduate program that fosters traditional educational goals as well as provides graduates with good jobs. This paper also evaluates the program within the recommendations of the joint ACM/AIS task force on the status of graduate IS curriculum.

Introduction

The current demand for Information Technology (IT) professionals with expertise to work with electronic commerce and on the web, solve the Year 2000 problems, and implement enterprise software has encouraged the establishment of graduate programs in IS in the U.S. as well as in other countries. For example, information about more than 90 graduate degree programs worldwide may be obtained at the web site, http://www.pitt.edu/~isprogs/graduate.html. In addition, a joint ACM/AIS task force is currently working on a report on the status of graduate IS curriculums.

The establishment of the Master of Science in Information Systems (MSIS) took more than four years to implement at a large regional midwestern university. The authors were very involved in the development of this graduate program and are now interested in an evaluation of this program within the context of the report from the Joint Curriculum task force.

The University

The university is a large regional midwestern institution with a unionized faculty. It has about 17,000 students on its main campus with approximately another 10,000 students on its satellite locations. The College of Business Administration (CBA) is AACSB accredited. The main philosophy of this institution is dedication to student learning and outcomes. While scholarly activities are recognized and rewarded because of their importance to graduate programs, the main emphasis is teaching. About two years ago, CBA entered into an agreement with SAP AG to incorporate SAP R/3 into its business curriculum. A main factor in this decision is the implementation of the financial and human resource modules for the university’s business and finance divisions by CMU administrators. In addition, several companies that have traditionally been involved with the university are also using the enterprise software. Consequently, their input provided the impetus required to establish the MSIS.

The Master of Science in Information Systems Program

The MSIS was approved at the state level in July 1998. Interest in the program has continued to increase since that time and is partly due to the SAP University Alliance Program between SAP AG and the university. This SAP R/3 initiative is almost three years old and has contributed significantly to the institution’s visibility as a forward-looking higher education institution. The MIS faculty are interested in the comparison of this MSIS with other programs and especially with the recommendations of the Joint ACM/AIS Task Force on graduate IS curriculums. The preliminary evaluation of this graduate program indicates that future graduates would possess the characteristics recommended by the task force as depicted in Figure 1 below. The MS model recommends a curriculum of between 10 to 20 courses in business, IT foundations, IS Core, integration, and career tracks. Details of the MS model may be obtained at the web site, http://cis.bentley.edu/isa. The next section compares the MSIS at CMU with the MS model on a course by course basis.

Comparison of MSIS with the MS Model

CMU MSIS graduates obtain a broad business and real world perspective because the program is housed in CBA and CBA courses address business issues. Class assignments require group projects that demand team work and interaction. Students are also required to work with companies on research projects with the faculty providing supervision and mentoring. University units such as Career Services collaborate with the MIS faculty to provide career counseling to the students. In addition, job and internship fairs are organized to bring companies to campus so that students know what positions are available to them. Faculty ensure that analytical and critical thinking skills are evaluated in their courses.
A strength of this program is the MIS Advisory Board which provides support such as curricular input, internships and scholarships as well as for research and projects with the students and faculty. In addition, the corporate members provide financial support for these activities. The Board comprises of corporate representatives, MIS faculty, CMU administrators and staff, undergraduate and graduate students, and alumni. This diversity in Board members is one of the strengths of the MIS program.

Graduates of the MSIS program at CMU has to complete 30 graduate semester credit hours or approximately 10 graduate courses. Each graduate course is typically three-semester credit hours. This requirement falls within the realms of the MS model since the model requires between 10 to 20 courses of three semester units each. The authors took the liberty of assuming that units are equivalent to credits.

**Business Foundations**

Students in the CMU’s MSIS must have the business foundations specified in the MS model. Students can acquire the course contents of the business foundations either through taking the prerequisites to the program or their undergraduate business degrees. At the undergraduate level, these business foundations are taught in five courses; mainly, Computers in Business I, Principle of Accounting (two courses), Mathematics for Business, and Introduction to Statistics. At the graduate level, the equivalent course contents of the prerequisites are covered in the following courses: Management Information Systems, Using Financial Accounting Information, and Statistics for Managerial Decision. The Director of the MSIS may also identify other courses that could provide the appropriate knowledge to ensure students’s success in the program.

**IT Foundations and IS Core**

Students beginning the MSIS are expected to know the fundamentals of IT (IS’97.1) and Hardware and Software (IS’97.4) because equivalent topics are taught in the course, Computers in Business I, at the undergraduate level, and the Management Information Systems course at the graduate level. However, the Programming, Data and Object Structures are addressed in two courses, Essentials of Transaction Processing Systems and Essentials of Database Management, as part of the five required courses of the MSIS. The other three required courses are Systems Analysis and Design, Decision Support Systems, and Information Resources Management. While most of these courses are not exactly the same as those indicated in the IT Foundation and IS Core, the authors believe that the topics covered are similar. At the same time, the authors also appreciate the importance of students learning project and change management, and therefore, are developing such a course. IS policy and strategy are addressed in the Information Resources Management course. The Enterprise-wide Network Architecture course is not yet being required of the MSIS students but the faculty are currently creating that course for inclusion in the program. The MSIS students do currently have the flexibility of including appropriate courses in their programs after consultation with their faculty advisors.

**Career Tracks**

Instead of career tracks, the MSIS students may select one of three areas of concentration—Business Process Engineering, Systems Applications, and General Business. Specific courses have only been identified for the Business Process Engineering (BPE) concentration, which is targeted at those students who want an emphasis in Enterprise Resource Planning, (ERP), more specifically, SAP R/3. These students are required to study a minimum of three courses in SAP R/3; namely, SAP R/3 enterprise software, ABAP/4 programming, and SAP R/3 configuration and implementation. Students interested in systems applications can choose to take more MIS courses such as telecommunications, client/server applications, and electronic commerce as well as courses in other disciplines such as health information systems, geographic information systems, and industrial technology. Students whose undergraduate degrees are not in business but who wish to take more business courses can choose the general business concentration. They will then study graduate business courses that provide them with a more in-depth analysis of the business environment. Thus the MSIS program provides the students some flexibility in their studies.

**Integration**

Every student are required to complete a capstone project under faculty supervision. Students would have to take two courses for this purpose. One course, Administrative Business Communication, assist the students in the identification of possible projects and the writing of the initial proposals for these projects. While taking the second course during their last semester, the students will complete their projects.
Conclusion

The MIS faculty at this university believe that they should operate within the recommendations of the task force and also within the guidelines of AACSB. The MSIS does address many of the issues raised in the draft report of the task force. At the same time, the authors recognize that much work remains to be completed in order to ensure that students with good skills graduate from their MSIS program. It is the goal of the MIS faculty to continue to strengthen their graduate program by continuous improvement.

References
