Chapter XXXIV
Information Systems Curriculum Design Processes

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ABSTRACT

The process of designing a university curriculum in the information systems discipline needs to follow many of the same processes that professional systems analysts use. Of concern are the product, the stakeholders, the drivers, and the methods; indeed, an information systems curriculum is an information system. This chapter presents a case study of one small regional university's efforts to create an updated information systems curriculum addressing the challenges of curriculum development using the framework of the very systems analysis and design course content that the students are expected to learn. The chapter identifies each component of the information system curriculum and details the processes supporting each development step along the way, from problem identification to system operation and support. This case study presents a cohesive approach to dealing with the many pressures associated with information systems curriculum development and might be instructive for curriculum development in other disciplines as well.

INTRODUCTION

The University of North Alabama has offered undergraduate courses leading to a baccalaureate degree in information systems fields since 1978. The programs were first called management information systems, then computer information systems (CIS). During the first couple of decades, these programs were part of the Department of Management and Marketing within the College of Business. In the mid-1990s a separate Department of Computer Information Systems was formed within the College of Business, incorporating the CIS programs and courses and those associated with the former Administrative Systems Management Department. During the first two decades of information systems programs, the curriculum was revised and updated numerous times, sometimes by adding courses and sometimes by totally recasting the degree requirements of the program. Attention was given to the latest technologies and to issues involving the application of technologies. Curriculum guidelines

from the Association for Computing Machinery (ACM, 2005) were consulted, and faculty attended conferences and workshops dealing with curriculum matters. Faculty also maintained contact with many alumni and local employers in an effort to maintain a program which would properly train students to take their place in the ever-changing world of technology.

Since 2000, the enrollment of CIS majors has hovered somewhat above 200, fluctuating slightly from year to year, but not experiencing the precipitous drop reported by many universities. The number of full time faculty grew from 8 in 2000 to 10 at present and from two doctorally-qualified members to six. In addition to teaching courses in the CIS undergraduate major, CIS faculty members teach a basic computer applications service course required by most majors in the university, enrolling approximately 1,500 students per year. The graduate information systems program, part of the Master of Business Administration, new in 2004, now has over 50 students enrolled. The CIS department is also the subject-area home to the program responsible for preparing high school teachers of business and marketing education at both the bachelor and master of education level.

In the fall of 2004, it became clear to the faculty of the CIS department at the University of North Alabama (UNA) that a problem existed with its current curriculum. The courses being taught were not meeting the needs of the students as they prepared to enter the job market. The department's faculty needed to solve the problem by designing a curriculum to meet the needs of a CIS graduate entering the work force. How would they solve this problem? As information systems people, the faculty decided to use a problem-solving technique familiar to all the faculty members: the principles found in systems analysis and design.

When a university faculty undertakes a major curriculum revision, there are many issues to address and many procedural hurdles to cross. These are in many ways similar to the various types of constraints generally faced by information systems

developers and systems analysts. All too often, it is difficult to admit to deficiencies in an existing system (curriculum) because there are stakeholders with interests in preserving the status quo, pressures that are resistant to change, decision makers who are not fully informed of all relevant facts, outside evaluators who have established standards which must be upheld, and the list goes on. But in short, the curriculum development process requires the buy-in of a wide variety of stakeholders, including faculty, university administration, curriculum committees, alumni, potential employers of graduates, and, of course, students. The extent to which each stakeholder group accepts and embraces a curriculum is an important element of how successful the overall project is and in the case of curriculum development, how successful the program will become.

Maintaining a program with high standards, such as those required by accrediting agencies, was important to the faculty. "Accreditation focuses on the quality of education…A high quality degree program is created when students interact with a cadre of faculty in a systematic program supported by an institution" (SACS, 2007). The university holds the regional accreditation. The College of Business holds accreditation by the Association of Collegiate Business Schools and Programs (ACBSP, 2007). The college and department faculty and administration are committed to seeking additional accreditations as appropriate.

Inasmuch as the ultimate objective of curriculum revision is educating students to achieve their objectives, usually employment objectives, the product can be assessed in terms of the types of employment objectives being targeted and the knowledge base and skills sets required to achieve those objectives. Accrediting organizations have, in recent years, come to emphasize learning outcomes as a primary element for educational institution and program evaluations. The notion of measurement of learning outcomes is also fundamental to concepts of continuous improvement and quality enhancement.

Historically, curriculum revisions have been course and credit hour-centric. In some profes-

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