ABSTRACT

We describe the process at a College of Business (COB) in which the Introduction to Information Systems course was redesigned to better prepare students for advanced business classes and to equip them with interdisciplinary knowledge and skills demanded in today’s workplace. The introductory course was previously under the domain of the Computer Science Department, itself housed within the COB. However, an administrative restructuring resulted in the Computer Science department leaving the COB. This paper shares one journey of a COB dealing with the familiar dilemma of reclaiming and redeveloping an introductory Information Systems course that satisfies the needs of both adequate and updated technical content balanced with a broad overview of information systems and their impact in a business environment.

INTRODUCTION

One of the many challenges facing information systems (IS) educators is keeping the course materials current in such a dynamic discipline. Another challenge is an ongoing need to establish the proper placement for IS within the education system. Similar to the debate over the identity crisis facing the IS field, there is some confusion over exactly what courses and content should fall under the domain of IS curriculum (Downey et al. 2008). Should the focus be on technical IT skills or business skills, including communication and interdisciplinary
subject areas such as finance, accounting and management?

An attempt to put the debate to rest suggests a compromise somewhere between the two competing ends of the spectrum as Plice & Reinig (2007) suggest. We believe that balancing the interests of the varied stakeholders of the IS discipline – students, recruiters, IS faculty, non-IS faculty, and IS practitioners – is a delicate art and that the debate will likely persist as the field continues to dynamically evolve. For our institution, however, the challenge was one that required an immediate solution.

Students themselves indicated the same concern that the content of the Introductory to IS course had become less than useful for them as they progressed through the COB program. However, while there was general agreement on what content was no longer valid, there was far less agreement on exactly what course content should be included. In this paper, we discuss the various steps of the journey taken in our course redevelopment process. We present the results of what was ultimately determined among the COB faculty as being the “best compromise content” for the new course.

BACKGROUND

The Introductory to Information Systems course is a core course in most business schools, offering information systems concepts and application software skills to all business majors (Gudigantala 2013). Previously, the structure of our COB included the Computer Science (CSC) department with the introductory IS course taught by that department. However, an administrative restructuring resulted in the CSC department leaving the COB and joining the College of Sciences and Mathematics. This change left the COB with a desire to replace the current CSC course, reclaiming it for the business school. It also presented an opportunity to redesign the course as a Management Information Systems course with updated content for the business students and to incorporate components designed to address knowledge and skills deficiencies noted by faculty, students, and advisory councils.

The Undergraduate Curriculum Committee made a recommendation to create a Special Task Force with the charge of developing a proposal for a new course to replace the current CSC course in the business foundation requirements. As the CSC course would remain in the curriculum of the CSC department, this process first required demonstrating the unique need for a new course in the COB with content distinct from the existing CSC course. The Task Force consisted of a representative from each of the academic departments in the COB – Accounting, Business Communications and Legal Studies, Economics and Finance, and Management, Marketing, and International Business – to ensure the inter-disciplinary skills needed for each functional area of business would be addressed.

DEVELOPMENT OF A NEW COURSE

The Dean of the COB called a preliminary meeting and revealed that various stakeholders of the COB – faculty, students, many members of the College Advisory Board, and even some recruiters – indicated that many business students were not well-equipped to handle spreadsheet tasks in some of the program’s upper-level courses as well as entry-level positions that recruiters were trying to fill. During a recent meeting of the COB’s Alumni Advisory
Council, the members recounted numerous stories of their own lack of preparedness to meet the demands of their jobs with regard to these skills. The Dean requested that the course meet the need for all business students to have some basic MIS knowledge as well as more advanced spreadsheet skills needed both for subsequent business courses and future job environments.

The results of these informal assessments of faculty and students revealed that the old model of this introductory course was not meeting the needs of either constituent, even though the course did have a business-oriented description. The faculty complained that students were not adequately prepared to perform some of the basic spreadsheet skills required for quantitative exercises in accounting, finance, operations management, and economics courses. For intermediate skills, many professors found themselves having to use valuable class time teaching these spreadsheet concepts before they could begin teaching the actual content of their course. Other faculty simply quit making assignments that required these skills.

The Task Force drew the conclusion, based on the preliminary assessment delivered by the Dean and reinforced with the informal surveys of the faculty and students, to make spreadsheet skills a primary component of the new course, with a business oriented focus on productivity enhancements provided by information systems. One of the first tasks included selecting a name for the course which conveyed the new emphasis on productivity, yet kept the original focus on management information systems. The new name chosen was “Management Productivity Systems.”

The next step was to develop a course description that conveyed an objective reflecting the new direction of the Management Productivity Systems course, but also distinguishing it from the current introductory CSC course. The CSC course description used phrases such as “Use of operating systems and business application software” and “A general study of computer[s]…from a business-oriented perspective,” and therefore presented somewhat of a struggle for the Task Force to find a description that was both appropriate and unique. We wanted the new course to also have a “business-oriented perspective,” and there would indeed be some “business application software” covered in the course.

However, we knew that we were developing a vastly different course from the one currently being taught. We wanted to emphasize the focus on data that would be processed with spreadsheet software, but spreadsheet skills were not the only material the course would cover. There was some concern that students also be able to take the data manipulated in the spreadsheet program and display it in a report document or presentation application. However, we wanted something that conveyed the major focus on data and its use in managerial decision- making. After several rounds of revisions, we settled on the following:

**COURSE DESCRIPTION:**

*Introduction to information system concepts encountered in various business disciplines. Emphasis on productivity software skills with focus on techniques for gathering business information as well as structuring, manipulating, and presenting data to support managerial decision making in a business environment.*
Having the name and course description settled upon, the work of defining exactly which concepts to include in the course material began. A great amount of time and energy was spent debating which content areas would be covered in the new course. One issue that arose was the familiar dilemma encountered in many IS courses of whether the content should focus more on technical IT skills or business skills, including communication and interdisciplinary subject areas such as finance, accounting, and management. Pierson et al. (2008) present a comparison of the names of IS education courses in business schools in the US as compared to three years previously. The comparison shows that the names are many and varied, but that the programs themselves remain fairly stable.

With that thought in mind, the Task Force reviewed the course names and descriptions of introductory IS courses from six institutions in our region. Although there is some variation among the institutions in terms of course name and description, there are some commonalities as well. Three of the institutions reviewed used the phrase “Computer Applications” in the course title. The word “Business” also appeared in three of the course names. “Computer” or “Microcomputer” appeared in all six of the courses reviewed. Our institution did not use the word “Computer” in the existing introductory CSC course, nor did we adopt it for the new proposed course. We wanted less focus on the computer itself, and more on the productivity a computer affords a business. A list of course names and key phrases from the course descriptions examined is contained in Table 1.

<table>
<thead>
<tr>
<th>Institution</th>
<th>Course Title</th>
<th>Key Phrases in Description</th>
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<tbody>
<tr>
<td>1</td>
<td>Business Computer Applications</td>
<td>“Computer terminology, hardware, software, operating systems”; “business applications of software”</td>
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<td>Business Computer Applications</td>
<td>“Computer terminology, hardware, software, operating systems”; “…business applications of software”</td>
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<tr>
<td>3</td>
<td>Introduction to Computer Applications</td>
<td>“…personal computer applications in the business environment”</td>
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<td>4</td>
<td>Introduction to Computers</td>
<td>“…computer literacy”; “Basic computing concepts”</td>
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<tr>
<td>5</td>
<td>Introduction to Microcomputer Applications</td>
<td>“…advanced information technology skills”; “office productivity software”</td>
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<tr>
<td>6</td>
<td>Introduction to Computers in Business</td>
<td>“introductory concepts of computing in business”; “computer history and programming”</td>
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</table>

This review of courses from neighboring institutions as well as our own current introductory IS course guided the discussion on content that we felt was still crucial to include in the newly proposed course as well as the content we felt was no longer relevant. The task force balanced and prioritized the needs of the multiple constituents with the limited time afforded a three credit hour course. Lists were collected from each member of the Task Force containing the
items their departments’ faculty felt were most important to include. These lists were then merged and edited in conjunction with the contents of several textbooks on spreadsheet skills.

We faced the very familiar dilemma of trying to balance the technical requirements of the course content with a focus on IS issues in a business environment. Granger et al. (2007) suggest that even though technical skills are still considered important for a COB graduate, there has been an indication from CIOs that there is a desperate need for employees with project management expertise, as well as enterprise (or cross-disciplinary) knowledge, industry knowledge, and customer oriented business skills. Jafar et al. (2008) also suggest a link be made between the business and technical requirements that fulfill the technology requirements, as well as satisfy corporate recruiting needs. After once again discussing the needs of a COB graduate, we settled on the following topics displayed in the course objectives:

Student Learning Outcomes: Upon completion, the student should be able to:

• Demonstrate familiarity with organizational issues of Information Systems (security, networking, ethics)
• Describe how Information Systems can provide businesses with efficiencies and help create a competitive advantage
• Import manipulated data into word processing or presentation applications
• Perform basic functions related to spreadsheets including creating and formatting tables, charts, and templates
• Import data from a database application for spreadsheet processing
• Apply functions in formulas (statistical, financial, logical, and lookup) and analyze data with charts and what-if analysis tools
• Use advanced spreadsheet techniques (sorting, filtering, custom data formats, styles, and templates)
• Use Business Analytics tools in spreadsheet software

With a course name, course description, textbooks, and Student Learning Outcomes established, a syllabus was drawn up with a timeline outlining the various topics to be covered. Those topics include the main components of management information systems, which include people, information and information technology. The focus on IS issues that impact a business meant including the major systems used in businesses such as enterprise resource planning systems as well as the underlying structures that support those systems. Those underlying structures include databases, data warehouses and data mining tools.

Once all the documentation was in place, it was presented to the Undergraduate Curriculum Committee, which informally voted to proceed with the proposal. The next step in the process involved completing a formal proposal request to the University Curriculum Committee. This involved the completion and submission of an application in which the cursory information regarding course name, number, description, credit hours, prerequisites, etc. was given. In addition, the justification for creating a new course was required. Our answer to the question, “What is the primary reason you are creating this course?” was the following:
To introduce students to management information systems and management productivity systems needed to address deficiencies and expectancies in both areas.

We also needed to show the distinction between this newly proposed course and any existing courses. Therefore, we gave the following answer to the question, “How does this course differ from similar courses being offered …?

This course fills gaps in student knowledge of management information systems as identified by the major field test (a standardized exit exam taken by all business majors). This course also provides in-depth exposure to management productivity systems, primarily spreadsheet analytical techniques that have been most requested by employers and faculty. No other course provides this.

STATUS OF PROPOSED COURSE

The Task Force completed its mission of developing and formally proposing a new introductory IS course to replace the existing CSC course in the COB. The University Curriculum Committee received the proposal and approved its inclusion in the curriculum the following academic year. The first classes of the new Management Productivity Systems course will be taught in Spring 2016.

CONCLUSION

This paper presents the experiences of the faculty at a College of Business who found a need to re-examine the introductory IS course offering to their undergraduate student population. The highly dynamic nature of the IS field means that content must frequently be updated.

However, a restructuring of the departments within the COB and the College of Math and Science led to both a challenge and an opportunity to not only reclaim this course for the COB, but also to completely redesign it and develop a brand new course, customized to the current needs of our stakeholders. Many of those stakeholders indicated that the current course was insufficient to fill the requirements of our various constituents.

One limitation of this paper is that we did not empirically test the opinions of our constituents, relying instead on anecdotal feedback to gather our conclusions. Another limitation is the focus on only one institution’s experiences and therefore may not be generally applicable to other institutions. With the course taught for the first time in the spring semester of 2016, there will be a unique opportunity to begin longitudinal data collection to empirically test the impact of the restructured course material.

However, as the IS field continues to evolve at a rapid pace, at a minimum our experience serves as a cautionary tale of the need to continually monitor the content of our courses. While our situation was unique in light of the departmental restructuring, it was a rather common occurrence that the content of an information systems course needed fairly extensive overhauling. Other institutions may find that their own introductory IS courses are somewhat outdated and may need a similar transformation to meet the needs of their own stakeholders.
They may at least find that it is in everyone’s interest to evaluate those courses to make an informed decision.

REFERENCES


