

# A VERY SUCCESSFUL ACTIVITY-BASED INTRODUCTORY COURSE IN INFORMATION SYSTEMS

by **Marlene Campbell, Ph.D.**  
Department of Computer Studies  
College of Business and  
Public Affairs  
Murray State University  
Murray, Kentucky 42071  
Phone: 502/762-2094

## INTRODUCTION

CIS 143, Introduction to Computer Based Systems, is required of all undergraduate students seeking degrees in the College of Business and Public Affairs; it is a foundation requirement for the MBA; and it is the first course in the longest sequence of prerequisites in the college. As such, it is in great demand every semester and in both summer terms. It is often the student's first exposure to both business and computers. It plays a tremendous role in generating an attitude and a spirit toward success or failure as the case may be.

## ANALYSIS

Four years ago the faculty of the Department of Computer Studies began an intensive program to improve its curriculum in all areas. We set long range goals and guidelines for the development of departmental standards. CIS 143 was one of the courses that we spent time on and worked out the general topics that should be covered and approximately how much time should be spent in each of these general areas. The broad categories we specified and the time frame from a 45-day semester were:

<u>TOPIC</u>	<u>DAYS</u>
Information Systems	10
Hardware	7
Role of Data Processing	8
Applications	15
Wordprocessing	
Spreadsheet Modeling	
File Management	
BASIC Programming	
Exams and Quizzes	5

Realizing the significance of this course, I began a two year study to develop a course that would, indeed, generate a spirit and attitude of success rather than failure. Computers, like collegiate studies, can be rewarding or devastating. Much depends on the initial encounter. From the old traditional approach to survey, or foundation,

courses, we have moved from a read, listen, and remember scenario to a see, do and comprehend situation.

Although we had only one micro-computer lab containing just twenty-four PCs for use by the entire college and officially belonging to Office Administration, I began giving my students laboratory assignments using a file manager, a spreadsheet, and a wordprocessor. We prepared for these labs by having a lecture demonstration during a regular class period and presenting the student with a detailed handout as to what steps to follow when he/she went to the lab. I also required some minimal BASIC programming labs using the terminals on our mainframe. Everything was presented in a lecture situation, and the student had to implement what he/she had learned in the lecture in the laboratory environment.

Some changes were made in the sequence and level of difficulty of the assignments after evaluating student responses to survey questions on their likes and dislikes and positive and negative experiences. Additional adjustments were made after a second semester of teaching the activity-oriented introductory course. Student response to the activities were so positive, retention of students was so improved, and grades were so much better, that we decided the approach would

be good for all sections of this course.

I wrote a proposal for a grant to fund me at the level of compensation for one course during the summer term to develop a standard syllabus to be used in all sections of CIS 143. I also served on a collegiate committee to select software for universal use in the college at the freshmen/sophomore level. The grant was funded, the software was selected, and the course has been developed, implemented, and maintained over the past four semesters.

### DESIGN

Since we had learned from experience that not all support materials live up to their descriptions in the publishers' brochures, we requested inspection copies not only of textbooks but also of all ancillary materials. Thirty-five publishers submitted their best for our consideration.

I developed a form for use in evaluating these materials and invited all members of the Computer Studies faculty to participate in this evaluation (See the Appendix.). On the initial evaluation, the thirty-five candidates were reduced to thirteen. The note pasted to the collection of evaluation forms of the rejected materials simply said:

#### FIRST PURGE

Not pleased with  
or  
Didn't receive full package  
or  
Not appropriate for this course

A second memo was sent to the faculty inviting their response to this first cut. The second cut was much more difficult.

We actually did keep some materials for consideration if the text was superb but we didn't have the full package. We contacted those publishers and again requested the ancillary materials. Faculty who were participating in this selec-

tion process really scrutinized these materials before purging the collection to four final candidates.

After this, it was really difficult. A formal committee of three made the final selection. We selected what we felt was the best to support this activity-oriented approach and to give the very best foundation in Management Information Systems. All four of the final candidates were outstanding.

The text we selected was *Introduction to Computers and Information Systems*, by Thomas H. Athey and Robert W. Zmud from Scott, Foresman. The software the committee selected was PC-WRITE, PC-FILE, and EXPRESS CALC. (It is relatively good software that was inexpensive to site license to provide legal use in our labs and to place in the hands of our students.) With the publishers materials as a foundation, the software support in our labs, the compensation from the FRC grant supporting my time, and department funding for materials, I spent a large portion of the summer developing a detailed syllabus and a comprehensive kit for use by all instructors assigned to CIS 143.

We have two PC labs now plus our mainframe terminal facilities, and we have one PC on a cart that may be reserved for the classroom demonstrations. We also have an LCD overhead projection display screen for projecting the CRT image to a large screen in the classroom. This addition has tremendously increased the effectiveness of the classroom demonstrations.

We also developed our own BASIC guide which is perfectly matched to our mainframe installation and our students' needs in this introductory course. We use Waterloo BASIC and adhere to a very strictly structured approach to the language implementation as presented in our textbook chapters on program development and programming languages. The activities are used to reinforce the learning of the information that is contained in an excellent text and reference book.

### IMPLEMENTATION

Colleagues in both the Department of Computer Studies and the College of Business and Public Affairs were invited to participate in the materials selection and the course development. I have been formally designated as the coordinator for the course and monitored the implementation of the standard syllabus in all sections of the course in the fall of 1986. We anticipated that the uniform laboratory experiences in this beginning course would permit a higher beginning lab level in all other courses that use the microcomputers. We also anticipated that our agreement on common testing for 50% of the final exam grade would highly encourage all instructors in the course to adhere to the course syllabus.

During the week prior to the start of fall classes we had a meeting of all those instructors who would be teaching the course in the fall. The group included regular faculty, visiting lecturers, and graduate assistants. Each was given the instructor's kit, and the philosophy behind the course was presented along with a detailed introduction to the teaching kit.

The teaching package is housed in a small portable file case. It contains:

- The general syllabus developed by the department
- The detailed syllabus
- Both MWF and TTh course calendars
- The textbook
- A file folder for each lecture topic with:
  - General notes and/or suggestions
  - The authors' notes
  - The publishers transparencies
  - Additional transparencies prepared in house
  - Student handouts
  - Suggested assignments
- The authors' Study Guide
- The author's Test Bank

## MAINTENANCE

Realizing that neither learning nor technology is static, we have constantly monitored the course over the four semesters since its implementation. We anticipated using the current publishers materials for a period of three years; and have found that we can, indeed, do this. (The only problem is that they have introduced a new edition of the text in just two years, but we have no plans to use this new edition in the coming fall semester.) All faculty members were (and are) invited to view this package and provide input on its enhancement and/or maintenance. When it becomes necessary to change the basic text, we will repeat what has proved to be a very effective course development process.

## REFLECTION

As we are near the end of our fourth semester with the course, we have become convinced that our expectations were more than fully achieved. We will be using the materials for one more year and

doing a thorough redevelopment during next year that will reflect some significant changes not only in our curriculum but in the information systems discipline and the data processing industry. We can continue to use the materials in spite of the new edition of the text because we have closely monitored the management of our supplements and our book store is adept at getting books for our needs.

When we were visited by the AACSB accreditation team during last academic year, they scrutinized our materials and syllabus quite carefully and endorsed what we were doing in this course. Not only were they pleased with the course, we have been pleased also. It has gained wide acceptance across our campus and our region.

Even though it is not a requirement for them, we have students from many disciplines taking the course. They have learned from the student grapevine that the skills learned are immediately applicable and that the information learned makes them more than just computer

literate. Realizing that the course provides a very broad and sound foundation in both computer technology and computing, the College of Education is now recommending the course for many of their majors.

We have taught a section on Tuesday nights for three years now, and this section is popular throughout our region. I personally teach this section and enjoy the diversity of the students enrolled. I have had lawyers, dentists, pharmacists, teachers, and even one of the local county sheriffs in my class. They come because they want to be able to use computers and because they want to be able to make intelligent decisions regarding computers and the computerization of their domains.

I look forward to the reassessment and redevelopment next year. The work has paid off. The three-year cycle has proved reasonable, and the course is better. The students have learned more, and we feel that we have given them the very best possible knowledge and skill for their education dollar.

## AUTHOR'S BIOGRAPHY

Marlene Campbell is an Assistant Professor of Computer Science and Computer Information Systems at Murray State University in Murray, Kentucky. She has BS and MAT degrees in Mathematics from Murray State and a Ph.D. in Mathematics Education and an MS in Computer Science from Southern Illinois University at Carbondale, Illinois. She has also attended the AACSB Advanced MIS Faculty Development Institute at Indiana University in Bloomington, Indiana. Prior to joining the faculty at Murray State University she was an Assistant Professor of Mathematics and Computer Science at the University of Tennessee at Martin, Tennessee.

In addition to working in curriculum development, Dr. Campbell has authored numerous papers on computer security, privacy, and ethics. She also serves as a reviewer in the above areas of interest for ACM COMPUTING REVIEWS.

**APPENDIX: CIS 143 - Book Evaluation**

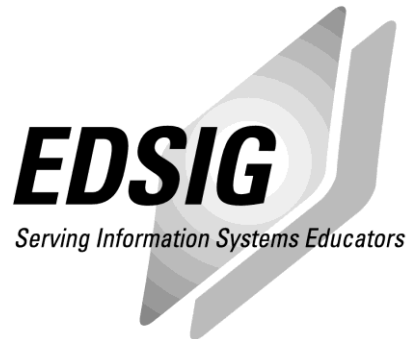
Title - \_\_\_\_\_

Author - \_\_\_\_\_

Publisher - \_\_\_\_\_

Support Materials:	Available	Quality Rating
Study Guide	_____	_____
Teacher's Manual	_____	_____
Test Bank	_____	_____
Transparencies		
Count		
Masters _____	_____	_____
Color _____	_____	_____
Software Support	_____	_____
Other :		
_____	_____	_____
_____	_____	_____

The Text:	Rating	Comments
Content	_____	_____
Reading Level	_____	_____
Sequence	_____	_____
Chapters:		
Languages	_____	_____
Communications	_____	_____
Analysis & Design	_____	_____
Other	_____	_____
OVERALL		
The Text	_____	_____
The Package	_____	_____



### **STATEMENT OF PEER REVIEW INTEGRITY**

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