

EBUS 5100/7100 - Systems Analysis and Design CTL Report

Systems Analysis and Design is a split-level technical content course required for business education majors and used as an elective by technological studies and other majors from both within and outside the Department of Occupational Studies. The course covers technical content associated with the development of computerized information systems and also provides guidance for teaching others to use MS Access and systems analysis and design techniques.

Service Learning:

EBUS 5100/7100 includes a small group service-learning project that is completed as the term progresses. The exercises associated with this project provide opportunities for students to acquire information system development skills within a real-world context. The products produced as a part of this process are delivered to clients at the end of the term and are appropriate for implementation at that point.

Problem Based:

Completion of the small group systems exercises (copies attached) requires students to find solutions to semi-structured and ill-structured problems. Guidance for approaching this process is provided by the Systems Development Life Cycle and other techniques learned in the class.

Project Based:

The small group systems exercises combine to provide a project based approach to learning about systems analysis and design. The various activities are directed toward a larger entity and combine to form a complete computerized information system.

Cooperative Learning:

Students are required to work together in accomplishing the small group systems project. A starting point for this is use of a personality inventory to determine strengths of various group members and some time spent building unity and cohesiveness as group work begins.

Authentic Assessment:

The portion of the student evaluation attributed to the small group systems project is evaluated using an authentic assessment of end products produced. Artifacts produced within the context of a real world problem solving activity provide evidences of successful learning.

EBUS 5100/7100 - Systems Analysis and Design
Spring Semester 2002

Location & Schedule

Rivers Crossing 143
Thursdays; 4:30 – 7:15 p.m.
Final Examination – Thursday, May 2nd, 4:30 – 7:15 p.m.
Course web site – <http://www.coe.uga.edu/~rhill/ebus5100>

Instructor

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Required Textbooks

Course Kit -- ISBN 0-6190-6050-6 containing the following textbooks:

Shelly, G. B., Cashman, T. J., & Rosenblatt, H. J. (2001). Systems analysis and design (4th ed.). Boston, MA: Course Technology. ISBN 0-7895-5957-9.

Shelly, G. B., Cashman, T. J., & Pratt, P. J. (2000). Access 2000: Complete concepts and techniques. Boston, MA: Course Technology. ISBN 0-7895-4671-X.

Other Required Materials

3.5" HD floppy disks
notebook

Description of Course

Provides technical background and knowledge for teaching information system development and implementation in occupational studies. Instructional strategies for project management, documentation standards, hardware and software considerations, organizational change and personnel factors, needs analysis, feasibility studies, systems design, and structured applications development.

This course includes a small group service-learning project that is completed as the term progresses. The exercises associated with this project provide opportunities for students to acquire information system development skills within a real-world context. The products produced as a part of this process will be delivered to clients at the end of the term and should be appropriate for implementation at that point.

Objectives of the Course

Students who successfully complete this course will be able to:

1. Integrate systems development principles into their instructional practice and content. (2, 3, 6)
2. Explain the typical components of office and end-user information systems. (1, 4)
3. Describe the System Development Life Cycle (SDLC) as applied to development of computer information processing systems. (2, 3, 4, 5, 6, 7, 8)
4. Teach others how to analyze organizational computer system needs and develop appropriate solutions. (2, 3, 4, 10)
5. Demonstrate the use of computer applications to solve systems design tasks. (5, 7, 10, 12)
6. Describe the social and interpersonal elements essential to the development and implementation of information systems. (1, 4, 8, 11)
7. Implement appropriate instructional strategies for teaching information systems analysis and design courses. (2, 10, 11, 12)

Additional Graduate Level Objectives

8. Employ systems development principles in the design and implementation of research activities. (2, 13)
9. Describe the theoretical base for social and interpersonal components of instructional activities in systems analysis and design. (4, 11, 14)
10. Identify and describe alternative instructional models for teaching information systems analysis and design courses. (10, 11, 12, 14, 15)
11. Design instructional activities that correspond to a specified instructional model for systems analysis and design instruction. (10, 12, 14, 15)

Note: Numbers in parentheses correspond to topics covered that are applicable to that objective.

Topics Covered

1. Overview of office and end-user information systems.
2. Systems models and problem solving.
3. The Systems Development Life Cycle (SDLC).
4. Systems analysis.
5. Systems development.
6. Principles of planning and data flow diagrams (DFD).
7. File and database design and normalization.
8. Systems implementation and evaluation.
9. Information systems application development.
10. Designing instructional activities for MS Access.
11. Group and interpersonal characteristics in systems instruction.
12. Portfolio development for instruction in systems analysis and design.

Additional Graduate Level Topics

13. Application of systems analysis and design principles to research activities.
14. Theoretical constructs applicable to systems analysis and design instruction.

15. Assessment and implementation of alternative instructional models and methodology for systems analysis and design instruction.

Student Activities

1. Study of assigned readings.
2. Completion of assigned exercises, projects, and problems.
3. Participation in class discussions.
4. Completion of periodic papers and examinations.

Evaluation - 5100

Class participation.....	5%
Notebook.....	5%
Assigned case studies and learning activities.....	30%
Mid-Term examination	30%
Final examination (comprehensive exam)	30%

Evaluation - 7100

Class participation.....	5%
Notebook.....	5%
Assigned case studies and learning activities.....	20%
Graduate Student Project	10%
Mid-Term examination	30%
Final examination (comprehensive exam)	30%

Grading Scale:

A	-----	90-100
B	-----	80-89
C	-----	70-79
D	-----	60-69
F	-----	0-59

Class Participation

Punctuality and attendance are important to successful completion of requirements for this course. For that reason, attendance will be taken at each class meeting. The class participation portion of the course evaluation will be based on punctual attendance to all class meetings, participation in class discussions, and appropriate care of computer equipment.

Notebook

The materials developed in fulfilling case studies and other assignments should be carefully labeled and organized, along with a table of contents, and placed in a notebook to be submitted near the end of the term.

Case Studies and Learning Activities

A variety of case studies and other assigned activities will be utilized throughout the term to provide problem solving experience and opportunities for enriching the content covered in class. All written work should be prepared using appropriate word processor and printing technology and should be checked for correct spelling, punctuation, grammar, and usage.

A key part of the activities completed under this heading will be the small group information systems development project. Working in groups of three or four, students will identify a real-world client with a need that can be resolved using an MS Access based computerized information system. Students will process the various stages of the Systems Development Life Cycle as project development is completed.

Graduate Student Project

A graduate student project will be completed to fulfill additional course objectives for EBUS 7100. This project allows students investigate and develop strategies for implementing study of systems and database content in Business Education programs. Details of this project will be discussed and arranged in consultation with the instructor.

Examinations

There will be two (2) examinations during the term, a midterm (covering material from the first class meeting to the date of the exam) and a final (a comprehensive exam related to any/all material covered during the term).

Late Assignments

Completed case studies, learning activities, and papers should be submitted by the end of the class period on the date they are due. Late assignments are generally penalized 10% for each day they are late unless arrangements are made to submit the materials at a later time.

Dishonesty

Dishonesty of any type, related to completion of course assignments, examinations, or other required activities is a serious offense. Should such an instance occur, it will be handled in accord with University regulations as described on page 37 of the *Undergraduate Bulletin* or pages 29-30 of the *Graduate Bulletin*.

Drop Policy

The drop policy is described on page 99 of the Spring Semester 2002 *Schedule of Classes*. If circumstances arise that will prevent a student from adequately fulfilling course requirements, it is important to address procedures to drop the class prior to February 28th, the mid-point of the semester.

As we have discussed earlier, you will be working on a case study throughout the quarter that will provide opportunities for application of the Systems Development Life Cycle (SDLC). This exercise is intended to be a small group activity.

As you begin your group activities, be sure to distribute the workload in a fair and equitable manner. All members of the group should have a printed copy of any materials produced to include in individual notebooks. One additional copy should be prepared for a group notebook being maintained by the instructor.

Each group member will use the rubric below at the end of the semester to evaluate contributions of every other member of the group. Please keep this in mind as decisions are made regarding your own participation in this project.

Rating scale: (range of 1 to 10)

1-2 Performed no meaningful work on the project.

2-6 Performed only minimal work on the project.

6-8 Performed average work on the project.

8-9 Participated and contributed much toward the success of the project.

9-10 Did more than fair share on project and was essential to its success.

Steps to complete this first exercise:

1. List the person or persons who will be working on this case study.
2. Provide a description of the idea you now have for a case study. Discuss the feasibility of the project (technical, operational, and economic) and explain how the finished product will be used and where it will be located.
3. Summarize the need for this information system. Explain what the system you create will need to do and what constraints will impact your design of the system. Information included should describe things such as the level of computer literacy of end-users, legal constraints or considerations, etc.
4. Describe the key decisionmakers in your case study? If you will be working with a small business or organization, an organization chart (see page 2.24) would be helpful.
5. Select a name for yourself or your small group to use as you work with this case study (see examples in instructor materials from previous classes). Design a logo that reflects your expertise in systems design and development. Prepare a title page for your case study and place it in the group notebook being assembled by your instructor as well as individual notebooks. Include on this sheet the name you will be using, your logo, and the name or names of whom will be working on the case study.
6. Prepare a Preliminary Investigation Report (see Figure 2-23 on p. 2.26) for your case study. Some of the items above can be incorporated into the report. Use the class schedule earlier provided to assist you with time estimates. Cost estimates should be based on the amounts listed in the example above. Try to keep up with time spent on the project so that these figures can be checked later.

Response to item 1 on this exercise should be completed individually for each member of the group. Include these individual responses, labeled by group member names, in the materials submitted for this exercise.

1. Meet together with members of your systems project group to discuss the following questions and provide individual responses in your Exercise 2 materials.
 - (a) Among the fact-finding techniques used in systems analysis are interviewing, document review, observation, and use of questionnaires. Considering your personality type, which of these would you be most comfortable with and why? Make a list of the results for the group.
 - (b) How consistent were the results of the Myers-Briggs type indicator and the Keirsey character and temperament instruments? How accurate were these in describing what you are really like? Express a consensus opinion on this for the group.
 - (c) List the members in your group for this activity and identify the person from the group who would have done the best job managing the lifeboats on the Titanic and explain why.

Items below are for group response.

2. Determine which individuals should be interviewed during the systems analysis phase of the systems project you are working on.
3. Prepare a list of objectives for each of the interviews (page 3.13). Consider outputs, inputs, processes, timings, and controls as you complete this step (pages 3.7-3.8).
4. Prepare a list of questions to be asked for each of the people you will interview (pages 3.13 – 3.14). Be sure all of the objectives are covered. Also be sure to include open-ended as well as specific questions.
5. Conduct the interviews. Provide a brief summary of the results. Note the guidelines on recording the facts provided on page 3.23 in your textbook.
6. Based on the data gathered, prepare a context diagram (page 4.7) for the information system you will be producing. Note that this step will be covered when we discuss chapter 4.

1. Prepare a diagram 0 for the information system you will be producing. If lower level diagrams are needed, prepare those also.
2. Keeping in mind that additions and changes may be required, establish the structure of the database tables to be used in the information system you are developing. Design the tables in your database so that the same data is not entered over and over again. For example, if a list of employees with three job titles was placed in a database, a separate table with job titles should be created and linked to the table with individual employee data. This would be better than having the job titles entered again and again in a field of the employee table.

After creating the structure of the database, enter a few test records in each table for purposes of testing the system.

3. Prepare prototypes of the forms that will be used in your information system. Consider the various processes included in your data flow diagram as these screens are developed. Also follow the guidelines from chapter 7 as you complete this work.
4. Design and produce a data capture form on paper. Be sure the design of this form is consistent with the design of your electronic data entry form.
5. When satisfied that your data capture form is complete, have the forms completed by your client(s) and collect them for entry into the information system.

1. Prepare prototypes of the reports the information system will need to produce. Show these prototypes to your client and identify any needed changes or additions. Revise the reports as needed in response to the feedback from your client.
2. Identify some aspect of your information system that can benefit from mailing labels (if not already a part of your plans). Investigate the availability of different types of laser or ink jet labels, choose one (you do not have to actually purchase them; just test print on plain paper), and design the report that would be needed to print the labels.
3. Using macros and switchboard pages of the type presented in Project 6 in the Access 2000 textbook, create a prototype of a main menu system that executes automatically upon startup of the database so that end users will be able to easily use your information system. Recognize that this might require some modifications at a later time, but try to design an attractive, functional menu.

1. Integrate the reports and screen designs you have created earlier into a finished information system for the client(s) you have been working with on your project. To the extent possible, incorporate buttons and other features in your system to make it as user friendly as possible.
2. If possible, have your client(s) test the system and then compile a brief report describing comments, difficulties, and any other significant outcomes of the test. If it is not possible to have the system tested by your client, have someone whom has not been involved with the project and who is not familiar with Access to test the system.
3. Provide documentation and packaging that you would include with the information system you have developed. Based on your experience in step two, be sure to provide adequate instructions so that an unfamiliar user can use the system.

1. Prepare a presentation of your information systems project to be given in class. Consider using PowerPoint to enhance this activity, but also be prepared to actually operate the information system to demonstrate its major elements.

If you are working in a group with others, distribute the various portions of the presentation so that all group members have opportunity to speak. Plan ahead so that transitions between group members will be smooth and polished.

Limit the length of the total presentation to between 7 and 10 minutes. Practice ahead of time and be sure to preview the projected view of materials you will use. Check oral presentation skills also and include good practices such as looking at your audience, avoiding saying "uh" a lot, and speaking with inflection and enthusiasm.

2. Print a 3-slide-per-page handout of any PowerPoint materials you choose in presenting your information systems project.
3. Check to be sure that all materials related to your information systems project have been placed in the class notebook. Also check to see that some type of divider pages or labeling has been included to identify which parts are Exercise 1, Exercise 2, Exercise 3, etc.