SIS583: Information Systems

FALL 2004

Wednesday 6:30-9:10 p.m.

CA116

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Office Hours: We 1:30-5:00 p.m. & by appointment

Course Description

This course introduces the systems concept and explores the purpose of systems analysis in the information environment. It introduces many systems analysis concepts including, but not limited to, the systems development life cycle, user-centered design and development, definition of the information problem, determination of system requirements through data gathering, and identification of methodologies for implementing the information system. Although the character of information systems vary in different information environments, this course will concentrate on core concepts and skills of systems analysis that transcend many of these environments. Students will learn the core principles and skills and how they might be applied in a variety of information contexts.

PREREQUISITES

Completion of core courses IS490, IS520, IS530 or consent of instructor. You will also benefit from also having completed IS560 before taking this course, but it is not a prerequisite.

ABOUT THE COURSE

This course is characterized by a collaborative learning atmosphere which requires you to use critical thinking skills and to have a commitment and involvement with our projects and discussions during class meetings and on-line. I will do everything I can to make the course a rewarding learning experience that will have meaning for you as an information professional. However, to get the most out of this course you will need to be actively involved in our readings, discussions, and assignments!

You will be expected to demonstrate mastery of the material in our class discussions, assignments, final examination, and through participation in our "virtual" discussion on Blackboard. You will also be completing a final project.

OUTCOMES

When you complete this course, you will:

- have an understanding of basic information system design concepts that will allow you to assess existing systems and participate in building new systems
- have the tools to be a contributing member of a systems analysis and design team in an information environment such as a library or corporate information center
- have a strong understanding of team management and the skills and roles of different team members.
- have an understanding of the importance of user-centered design
- have knowledge of the programming tools and technology associated with information systems have a familiarity with object-oriented design
- be able to apply these principles to the information environment in which you would like to work.

CONTACTING ME

I'm here to help – so always feel free to ask questions or share ideas! You are encouraged to drop in during my office hours, we can talk after class or we can set up an appointment at another time that is more convenient for you. E-mail is a sure-fire way to contact me. I believe e-mail is an excellent communication tool, and I check mine on a very regular basis. What I like about e-mail is that it is 24/7; that means you can ask a question when it's fresh on your mind – 24 hours a day, 7 days a week. I've set my mail to sort incoming messages; so to assure a quicker response from me always start your message subject line with SIS583. I'll usually answer within 48 hours, but I'll often get back to you even faster!

DISABILITIES

Please contact the Office of Disability Services at 191 Hoskins Library at 865.974.6087 if you need course adaptations or accommodations. They will work with you to arrive at the appropriate program and register you for services. Also contact me so we can talk about solutions.

READINGS

Required

Texts: Osborne, L.N. & Nakamura, M. (2000). Systems Analysis for Librarians and Information Professionals. 2nd edition. Libraries Unlimited.

On-line readings: There may be some required readings that are available on-line through databases at the UT libraries or from web sites. Web site addresses for required readings are on the syllabus.

Grades

Overview

Characteristics of the Systems Analyst	**= 10%**
Defining the Problem	**= 10%**
Team Project Proposal	**= 10%**
Quiz	**= 10%**
Team Project	**= 50%**
Current issues discussion	**= 5%**
Class Participation (online/class)	**= 5%**
TOTAL	**= 100%**

Team assignments should also include a brief statement about what each student contributed to the assignment.

All your assignments should be double-spaced and use a font of at least 11 points. The only exception to this is the final project report— style specifications for the final document are listed separately. Use the Chicago (Turabian) style manual. The first page should have a heading with your name, the class number (ie IS583), the date, and your email address. Subsequent pages should have a heading with your name and a page number.

In addition to fulfilling assignment criteria, all assignments will also be evaluated with the following criteria:

1. The presentation of the paper.
2. The quality of the writing. Writing that is not of graduate student quality will be returned with comments and the author may elect to rewrite the paper. However, the rewritten paper will not be eligible for full points. Papers that do not fulfill the assignment criteria cannot be rewritten and resubmitted.
3. The quality of the organization of the paper.
4. The quality and amount of critical thought exhibited in the paper including reflection, analysis and interpretation.
5. The use of appropriate literature and source material.

Characteristics of the Systems Analyst: The purpose of this assignment is to help you assess your current skills as they apply to systems analysis so you can concentrate on polishing your strengths and improving on your weaknesses. In your textbook (page 9) there is a list of the characteristics for the ideal analyst. Discuss how you compare to these eight characteristics giving concrete examples that illustrate your strengths and identifying characteristics you feel you need to develop more fully. Also answer the question, "What part do you feel systems analysis will play in your professional future?" Systems analysts need to be effective and efficient communicators so this paper should be no more than 4 pages meeting the requirements noted above regarding font size and line spacing (additional length will result in a reduction of grade). This is an individual project.

Defining a Problem: The purpose of this assignment is for you to build the skills needed to define a problem that can be addressed through systems analysis and design. You will chose an information system you know from work or one that you use. Problems may relate to implementation of new technologies, adjusting to environmental changes, improving a current system, or fixing problems with a current system. You will:

- identify the problem: this is a simple statement about the problem. You might identify your problem by examining the eight items that can serve as a source of problems – response time, throughput, economy, validity, reliability, security, quality of information, and efficiency.
- describe the context of the problem: Describe the setting where the problem occurs, and the information system that is already in place. This should be a very high level description of about one moderately sized paragraph.
- describe the problem: Be specific when you describe the problem. Symptoms of the problem can be used to justify the importance of the problem but should not be the only way the problem is described.
- outline the scope of the problem: You may do this in terms of how many people or how much data is involved in the system or you may focus on the cost if a system fails.
- identify goals of the project: This is a VERY important part of the assignment. You must create criteria that would define a successful project that addresses the problem. These criteria will allow a person to judge when the problem is solved.
- Justification for working on the problem: this should be a short paragraph summing up the reason it is important to address the problem.

This paper should be 2 pages. This is an individual project.

Team Project Proposal: The purpose of this assignment is for you to identify your team, the problem you will be tackling, and identify solution requirements and expectations. This is your first opportunity to bring a document from your team to the client (me!). I expect that there will be suggestions for the data collection, flow chart, and data flow chart reflecting the real-world situation of client participation in molding a project. The proposal should:

- Name your team members
- Define the problem (it may be one submitted by a group member for the "defining the problem" assignment or it may be a new problem.)
- Include a plan for data/information collection – identify the data you need and the sources you will get this information from
- Flow chart
- Data flow chart

The proposal should not exceed 6 pages. This is a team project.

Quiz: The purpose of the quiz is for you to demonstrate your knowledge of the key concepts and vocabulary of systems analysis. The quiz will be conducted online and will consists of multiple choice, true/false and short answer questions. This is an individual assignment.

TEAM PROJECT: Developing a System Specification

The purpose of this assignment is to allow class members to gain the skills necessary for building a system specification. Each team will be composed of no fewer than three students and no more than five students. We will discuss team formation on the first day of class. This assignment consists of a class presentation (40% of the team project grade), a final team document (50% of the team project grade) and a individual reflection paper (10% of the team project grade).

The team will select a problem to be addressed (see project proposal assignment above). The team will analyze the current system, develop a design a new system, and create a plan for the new system's implementation. The team will present their project to the class (either on 11/10 or 11/17). During presentations, the rest of the class will be in the role of the "client," asking questions and providing feedback. This feedback may be incorporated into the team's final document. The final written document is due on Nov. 30. In addition to the final team document, each team member will write a short (2-3 pages) reflection paper about their experience with the project, working with their teammates, and how the experience will help achieve their professional goals.

Current Issues Discussion: This is an asynchronous discussion that we will hold from Thu Nov 18 to We Nov 24. The purpose of this discussion is to make you aware of current issues in systems analysis, and for you to share you questions or experiences. ***This will be a graded activity since we will not hold class on Nov 24 – the day before Thanksgiving.*** I will offer several discussion questions during the course of this week but I expect the class to also talk to each other. You will be graded based on your contributions to this discussion. The quality of your answers is more important than the quantity of your answers.

Class Participation: In class and online communication are important components of a combined campus/distance education class and an essential part of the professional and academic environment. You will be assessed based on your participation during class and also on the class discussion board. Here are some ideas to help encourage online conversation:

- You can post questions to the list based on what we have read, or on related topics that you observe at work or in your community.
- You can continue conversation that we have had during class sessions.
- You can outline controversies surrounding theories or media clips and encourage others to assess the different perspectives.

HOW TO COMPUTE YOUR GRADE

All assignments will receive a letter grade ranging from A+ to E-. The number of points you can earn on a particular assignment can be calculated by multiplying the number of points for a particular grade (see table below) by the weighting for the assignment.

Letter Grade	Points	Letter Grade	Points
A +	140	C-	60
A	130	D+	50
A -	120	D	40
B+	110	D-	30
B	100	E+	20
B-	90	E	10
C+	80	E-	0
C	70		

For example, if you receive a "B" on a mini-paper, you have earned 4 points (100 X .04 = 4). Here's how it works for the course grade: to earn an "A" you must earn at least 120 points; for a "B" you need at least 90 points; for a "C" you need at least 60 points, and for a "D" you must have at least 30 points. You will receive an "E" if you have less than 30 points.

ATTENDANCE

Attendance is highly encouraged because class discussions are an important part of mastering the material. Excessive absences will result in a lower grade.

CHEATING AND PLAGIARISM

When you write for this class or when you are making a presentation, remember that any sources you use should be credited and that materials on the web should be cited too. Use Chicago style for your citations, and be sure to include any resources from the web. If you use someone's words or ideas without attribution - that's plagiarism. Remember cheating and plagiarism are violations of scholarly and professional ethics and University policy; don't do it! **If you cheat or plagiarize, you will fail the course** (E grade); and could face further actions. Further information is available in Hill Topics, the UTK student handbook.

SCHEDULE OF TOPICS, READINGS AND ASSIGNMENTS

(Example: SAL:3, 4 means *Systems Analysis for Librarians and Information Professionals* Chapters 3 and 4)

Week	Class dates	Topics	Reading	Assignment Due
1	**8/18**	Introduction to the course, instructor and requirements. Brief introduction to Systems Analysis		
2	**8/25**	Systems Development Life Cycle (SDLC) Classes of information systems Information Systems Architecture	SAL: 1, 2, 3	Characteristics of the Systems Analyst
3	**9/1**	Identifying and defining problems Collecting Data	SAL: 4, 5	
4	**9/8**	Flowcharts Data flow diagrams	SAL: 6, 7	Defining a Problem
5	**9/15**	Array methods – decision trees, decision tables etc.	SAL: 8	
6	**9/22**	Object Oriented approaches	SAL: 9	Team project Proposal
7	**9/29**	System Design	SAL: 10	
8	**10/6**	System prototyping and presentation	SAL: 11	
9	**10/13**	System selection	SAL: 12	Online quiz
10	**10/20**	Management of the project	SAL: 13	
11	**10/27**	Proof of concept and testing Implementation	SAL: 14, 15	
12	**11/3**	Team Project Presentations		Team Presentations Written report due 11/30
13	**11/10**	Team Projects Presentations		Team Presentations Written report due 11/30
14	**11/17**	Team work week		
15	**11/24**	Current issues in systems analysis	Class held asynchronously through online discussion for the week	**Required** discussion participation – will be graded
	12/8	Final review	**FINALS Meeting Time 7:15-9:15**	

Happy Holidays!

Final Document Format Specifications

The team project final document is to be presented in a different format from other classroom assignments. You should try to keep to these guidelines as closely as possible.

Style Specifications

1. **Font, line spacing, and margins:** Use times new roman 10 throughout the report except use times new roman 9 for spreadsheets. The report should be single spaced with a single-line space between paragraphs. All paragraphs should be left justified (no indentation for the first line), but they should not be right or full justified. Use one inch margins.
2. **Page Numbering:** center bottom of each page.
3. **Section Numbering:** Use "legal numbering" to organize your report. This makes is very easy to see the sections and subsections. For example, the main sections would numbered 1, 2, 3, etc. The subsections in section 1 would then be 1.1, 1.2, and 1.3. You can use this system to create as many levels as needed. Figures and tables should be numbered sequentially within their section.
4. **Endnotes:** Endnotes should be used (no footnotes) and they should be numbered sequentially throughout the whole body of the main text rather than start with new numbers for each section.
5. **References:** Author-date citation style in *The Chicago Manual of Style.*
6. **File format:** Copies of the report should be submitted to the instructor in Word format, and to the class website in pdf.

Content Specifications

The document should be useful to a client. Therefore it is wise to keep the main body of the report very focused and concise and to include other details in the appendices. There is some room for flexibility depending on your project however most reports should have the following sections:

1. Title Page: project name, team members, date
2. Table of Contents
3. Executive Summary: Not to exceed 4 pages.
   - This should include:
   - Brief description of old system
   - Problem definition
   - Recommendations
   - Summary of cost/benefit analysis
4. Data collection methods
5. Description of current system: This should be brief!
6. Recommendations for new system
   - Summary of changes that would be introduced (2-3 pages)
   - Model of proposed system
   - Specifications of proposed system
7. Cost/Benefit Analysis for new system
   - Summary of new system (hardware, software, staffing, etc)
   - Costs of implementing (tangible and intangible)
   - Benefits (tangible and intangible)
8. Implementation schedule for new system
   - Gantt chart, time table or PERT chart
9. Appendices