INF SYS 3810 -- INFORMATION SYSTEMS ANALYSIS
SECTION E01-- WINTER 2012

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Class: MW, 5:30 - 6:45 pm in 003 ESH
Office Hours: M 4:30 - 5:00 pm
or by scheduled appointment

TEXTS: Hoffer, J.A., J.F. George, and J.S. Valacich, *Modern Systems Analysis and Design*, Sixth Edition, Reading, MA: Pearson/Prentice Hall Publishing Company, 2010.

Gause, D.C. and G.M. Weinberg, *Are Your Lights On? How to Figure Out What the Problem REALLY Is,* New York: Dorset House, 1990.

Brooks, F.P.. *The Mythical Man-Month,* Boston: Addison-Wesley, 1995.

SUPPLEMENTAL READING:

Current page	http://www.umsl.edu/~sauterv/analysis/ba3810current.html
Analysis Readings	http://www.umsl.edu/~sauterv/analysis/analysis_links.html

OTHER USEFUL WEBSITES:

Class Home Page	http://www.umsl.edu/~sauterv/analysis/ba3810start.html
Syllabus	http://www.umsl.edu/~sauterv/analysis/ba3810.html
Regular Homework	http://www.umsl.edu/~sauterv/analysis/homework.html
Semester Assignments	http://www.umsl.edu/~sauterv/analysis/assgts.html
HTML Readings	http://www.umsl.edu/~sauterv/help/Links_HTML.html
Class Schedule	http://www.umsl.edu/~sauterv/analysis/ba3810schedule.html
Campus Events	http://www.umsl.edu/~sauterv/analysis/event_schedule.html
Acceptable Usage Policy	http://www.umsl.edu/technology/policy/acceptable.html
Student Technology Guide	http://www.umsl.edu/technology/publications/stutechguide/
Student Conduct Code	http://www.umsl.edu/studentlife/dsa/student_planner/policies/conductcode.html
UMSL Home Page	http://www.umsl.edu/
IS Home Page	http://mis.umsl.edu

PREREQUISITES: Inf Sys 3806 (Object Oriented Programming I), with a grade of C- or better.

DROP POLICY: For the purposes of this policy, the "effective drop date" is the date which I am informed of the drop or the actual date of the drop, which ever is ***later***. Students can and may inform me by leaving me a note in my mailbox, leaving me a message (on voice mail or email) or by speaking to me in person or over the telephone.

A student may drop this class until **March 12** with a passing grade. (Note the University policy states that you may drop until February 13 without receiving a grade; this policy is simply an extension of the University policy.) Between **March 13 and April 7,** a student will receive either a passing grade (excused) or a failing grade (F) depending upon his or her performance (current grade) in the course. A student may withdraw after **April 7** *only with and solely with* the approval of the dean of his or her division. If you want to withdraw after this date, go directly to your dean; do not ask for my signature -- my signature is not needed and I will not provide it. *Under **no** circumstance* may a student drop this class

after **May 2, 2012.**

CLASS OBJECTIVES: Systems Analysis and Design is the art of problem solving. Systems analysis is the study of a current business system and its problems, the determination and definition of business needs and information requirements, and the evaluation of alternative solutions. Systems design (next semester) is the general and detailed specification of a computer and human solution that meets the requirements determined during systems analysis. During the life of a system, a systems analyst may monitor or evaluate its ability to continue to meet business requirements, and will design and implement modifications and enhancements in response to end-user requests and environmental changes.

At the conclusion of the course, you should be able to:

- Creatively problem solve
- Analyze business processes
- Analyze an existing information system (whether manual or automated)
- Understand the principles of SAD
- Understand methodologies and the differences among them
- Work with a variety of SAD methods, and tools
- Define object, data and process models
- Understand and apply traditional process-oriented life cycle methods
- Understand and apply data-oriented life cycle methods
- Understand and apply agile development methods
- Plan and organize an information systems development project
- Successfully make a business case for a technological solution
- Learn to consider problems from many perspectives
- Understand system stakeholders and understand how to address them
- Prepare and present a feasibility study/cost benefit analysis
- Utilize observation, questionnaires and interview schedules to discover system requirements
- Improve observation and communication skills
- Generate alternative solutions to an information systems problem and choose among them
- Evaluate process and data representations
- Document information system requirements
- Prototype a user interface for a new information system
- Understand SAD standards and measures thereof
- Understand CASE tools
- Use a Microsoft's tool, *Visio,* to support the information systems development process
- Work successfully with a group of your peers on a common problem

MY EXPECTATIONS:

- I assume you are here to learn about systems analysis in preparation for your ultimate career. To accomplish that:
  - You must come to class prepared; you must **read and think** about the material before you get here.
  - You must demonstrate critical thinking skills.
  - You must participate in class discussions and class activities.
  - You must participate fully in the class project. This means that you will *think about* your project, go to group meetings, participate in the data collection and analysis. Each person must accept the responsibility for the project.
- It is *your responsibility* to ask questions in class or office hours when you are confused.
- I expect you to be courteous and respectful to me and your classmates, and professional to class visitors and to your clients.
- While I will not monitor your use of the computers during class, I expect you to be respectful in your use of the computer and I expect you to pay attention regardless of what you are doing with the computer.

Your success in this course is important to me. When I believe that the programs offered at the Center for Student Success (CSS) will help you academically, I will send a referral.

CLASSROOM COURTESY: I realize that I should not have to tell you these things, and I apologize to those of you for whom this is unnecessary, but in the past few years I have noticed a significant increase in bad classroom manners and inconsiderate behavior. So please adhere to the following rules. Repeated violations of these will be grounds for reducing your course grade.

- Adherence to the Student Conduct Code is expected.
- Adherence to the Acceptable Use of Computing Code is expected.
- I commit to create a climate for learning characterized by intellectual diversity and a respect for each other and the contributions each person makes to class. I expect you to make a similar commitment.
- I am committed to insuring a positive learning environment by respecting that University policy. I expect you to make a similar commitment.
- Turn off your phones, beepers and pagers before entering class; do not talk on the phone in class.
- Come to class on time. In those rare cases where being late is unavoidable, please enter the classroom quietly and take a seat as close to the door as possible. If the class period is more than half done, don't bother to come to the class. Once in class, do not get up and leave unless it is truly an emergency.
- Open beverage cans and bottles and snack bags before class starts. If you eat during class, please do so quietly. Clean up afterwards; wipe up spills and throw away trash.
- Keep talking with your neighbor to a minimum. If you are confused about something in class, please ask me - that is my job and I am happy to answer questions.
- When you use the computers, do so quietly.
- When we have guest speakers, I expect that you will pay attention and will not be improperly using the computer or talking to neighbors.
- Bring a handkerchief or tissue to class to blow your nose in case you get the sniffles.
- I am not going to supervise your attention in class. However, you are responsible for all the material covered in class -- if you do not pay attention and miss important material, I am not going to go over it again.

ACADEMIC HONESTY: According to the *University Standard of Conduct*, Section 6.0101,

> The Board of Curators recognizes that academic honesty is essential for the intellectual life of the University. Faculty members have a special obligation to expect high standards of academic honesty in all student work. Students have a special obligation to adhere to such standards.

Furthermore, note that the University's *Collected Rules* 200.010 B.1 **REQUIRE** faculty to notify Academic Affairs of suspected cases of dishonesty. It states, "In all cases of academic dishonesty, the instructor shall make an academic judgment about the student's grade on that work and in that course. The instructor shall report the alleged academic dishonesty to the Primary Administrative Officer."

For the purposes of this class, cheating will include: plagiarism (using the writings of another without proper citation), copying of another (either current or past student's work), working with another on individually assigned work or exams, unauthorized marking on a graded paper or exam, or in any other way presenting as one's own work that which is not entirely one's own work. It is *unacceptable* to seek the help of another (whether in the class or not) for help on an exam; this is considered academic dishonesty.

Any student who is caught cheating on any assignment or exam will receive a grade of zero (0) for that assignment or exam. Further, a recommendation will be made to the appropriate university officials that additional disciplinary action be taken.

ASSIGNMENTS: There are different types of assignments.

Due Dates: Due dates are listed for each project. In each case, the assignment is due at the end of the class period on the due date. *Late assignments will receive a 4 points per (calendar) day (or fraction thereof) late penalty.*

Format: All assignments *must* be typed (or word-processed) and must be double-spaced; use page numbers. Margins must be at least one inch (1") on *all* sides. Staple assignments in upper left corner; do *not* provide folders with your work.

Medium: Some assignments will be turned in during class. Other assignments will be posted to students' blogs or wikis. Students must turn in their assignments in the specified way to get credit for them.

Length: Where page estimates are specified, they are gauged at a font size of 11; students using a larger font should assume their texts can be about one-third longer. ***I will quit reading at the end of the page restriction.*** Hence, if your main point occurs after the maximum number of pages for the assignment, it will be lost.

Content: Not only will I grade on the basis of the content of the material, but also the presentation of the material. I expect the writing to be of the caliber of college graduates; I expect good grammar and accurate spelling. Failure to meet this expectation may result in a reduction of your grade.

• ***CLASS PARTICIPATION:*** I believe in an interactive class and so we have a variety of ways in which students need to be involved. One of these is the individual rating sheet for cooperative learning groups that is to be completed *each* week after groups are formed. In addition, from time to time, we will have activities in class (generally these are not scheduled far in advance). The most major of these is the group forming exercise early in the semester. Generally these activities are graded similarly to the homework; the exception to this is the group forming exercise.

- ***THE BLOG***: As part of your class participation grade, you will be blogging about your project and how it relates to service learning. In our semester project, you will be learning about how to do systems analysis and the issues that can arise in a real application. At the same time, you will be helping our community partner (i.e., your client) understand how to use technology to meet the goals of its organization more effectively. Without you, your client might not be able to improve its technology use! The Blog assignment is intended to get you to think about your project in terms its contribution to your community, and what it means to you. Specific issues will be assigned each week that must be addressed. However, other issues may be addressed as you deem appropriate.

Your grade in class participation is an average of (1) your group forming exercise grade, (2) the percentage of possible individual rating sheets completed, (3) the percentage of class participation activities completed, and (4) the percentage of blog assignments completed. So, if you received a grade of 78 on the group forming exercise, completed 90% of the individual rating sheets, participated in 50% of the class activities, and did no blogs (0%), then your class participation grade would be 54.5.

• ***REGULAR HOMEWORK***: In addition to the various projects and major assignments, students will be assigned regular homework that must be completed and turned in. These assignments will be given irregularly in class, and may be individual assignments or group assignments. It is the student's responsibility to learn of the assignments, even if he/she has not attended class.

Your grade for individual homework assignments is either a check or check minus. The grade that is used in the final grade computation is the percentage of assignments completed. So, for example, if there are 10 assignments and you have turned in 5, your homework grade would be 50.

• ***"NETWORKING" ACTIVITIES***: Learning to network, and learning to learn about new topics is an important part of any IS Professional's life. Therefore, you are going to practice that activity this semester by attending at least three external events. These might include the IS Mentoring Program, the IS Programming Club, the Career Services Activities (not including job interviews or the job fair), the Executive Leadership Institute Events, the Distinguished Lecture program, Student Night Seminars sponsored by the Institute of Internal Auditors and the Information Systems Audit and Control Associations, the local Web Developers Chapter, Saint Louis Visual Basic Users Group, the XPSTL Group, the Wireless SIG *or any other IS-related seminar by a campus based or local professional organization* (if it is not in this list, be sure to get permission before you go).

The base grade will be the percentage of the expected events (3) you attend. You may get extra credit for an additional event. If you attend four events, the fourth will be for extra credit.

To get credit for attendance, you must complete the required form and have it signed by some official of the organization or the event.

• ***PROJECT ASSIGNMENTS:*** There are two types of group assignments, the Progress Reports and the Final Paper/Presentation. All of these assignments will be completed as the group defined after the group forming exercise (to be announced approximately February 20). While the entire group generally will receive the same grade, I reserve the right to differentially assign grades to reflect substantially different levels of work being completed by members of the group. At the date when the final analysis project is due, group members must evaluate the amount of work done by others in the group using the Group Member Evaluation Form.

Progress Reports: In addition to the paper, the analysis group must provide the instructor with regular reports on group activity. These reports are due *from the group* on each Monday at the beginning of class. These reports must include: (a) brief minutes of the discussion and decisions considered during any group meetings during the week; (b) action items for the next week; (c) task assignments; (d) problems and/or opportunities faced by the group that week. Additional, specific sections (such as those noted below) may be required from time to time, and will be announced in class, and stated on the "current page." These assignments should be *complete*, but they can be as long or as brief as is relevant for the activities of the group. However, ***all progress reports will be provided on the Group Wiki in mygateway***.

Your progress reports grade will be an *average* of six scores: the five assignments below (on a 100 point scale) and the percentage of all progress reports completed. So, a group that received an 85 on each of the five specific assignments, but turned in none of the progress report would receive a grade of 70.8 for their progress reports.

The groups should think of these assignments as input into their final project since most of the components will be included in the final report.

• ***Background Exercise:*** All systems analysts must "do their homework" to be in a position to understand enough about the system and organization to be able to ask the right questions. To ensure that all groups are ready to meet the client for the first time, each group must provide a list of appropriate and relevant questions to pose to the client. These questions must be justified in your summary, which should address how the information will help you in completing the analysis, and why the information is not available prior to the meeting with the client.

Due Date:	**February 27**
Required Content:	A summary of what you know about the organization or similar types of organizations, the environment and technologies that would be appropriate. In addition, you will provide a set of questions for client (the questions

should be sent via email in addition to appearing in your wiki) that will help you to understand the organization better.

• ***System Description:*** Once you have collected information about and interviewed your client, it is time to refine your "current system" definition. This statement is your starting point for your analysis, and as such is a critical component to understanding how to approach the analysis. Each group must describe the system (including subsystems, the environment, and interfaces), the problem, the stakeholders and other information pertinent to understanding the system under consideration. One important question that must be answered is how you will know when you are successful in solving your client's problem. In addition, you must provide appropriate diagrams describing the system

Due Date: **March 19**
Content: This assignment should include appropriate diagrams.

• ***Questionnaire and/or Interview Tool:*** One of the tools systems analysts use to determine and refine user requirements is a questionnaire or interview. The approach taken to the length, type of questions and usage depend on the situation and already available information. You must develop an instrument that could be used as an interview schedule to use for collecting data for your project. You must turn in a copy of your interview schedule to the instructor. In addition, you must be prepared to role play with other members of the class to test your instrument. You must use this (or a refined version of it) to query a number of users about the system needs for the final project report.

Due Date: **April 2**
Content: You must provide the set of questions for your interview or questionnaire. In addition, you must provide a justification for the questions. This justification should explain how the answers to the questions will help you evaluate alternatives better or solve the client's problems more effectively.

• ***Feasibility Study:*** One of the first steps in analysis is to determine whether or not the project is feasible. We will discuss more about what is included in a feasibility analysis in class, or you can check the website.

Due Date: **April 16**

• ***Prototype:*** One of the tools systems analysts use to determine and refine user requirements is the prototype. Prototypes vary substantially; they might be an electronic "toy" version of the system, electronic versions of possible screens, paper versions of possible screens or "post-its" on paper representing the screen. Regardless of the format, the goal is to provide the user something tangible to which to react in order to clarify his or her specifications. If your prototype is electronic, you must also turn in a diskette or URL.

Due Date: **April 23**
Content: You must provide a copy of your prototype. In addition, you must provide a justification for your prototype. In particular, you must explain how the use of the prototype will help you evaluate alternatives better or solve the client's problems more effectively.

The Final Paper and Presentation : The purpose of the Analysis Project is to give students the opportunity to practice all of the skills taught in this class, and to meld the results of those activities into a coherent and professional report that describes the recommendations for systems change as well as a set of specifications for systems design. The specific project to be

completed this semester will be discussed in class. Detail about the requirements of this assignment and specifications for the final report are available on the Web, and will be discussed throughout the semester. Please note that it is intended that the materials created for the progress reports will be included in the final paper.

Presentations: **May 7 5:30 - 7:30 pm**
Paper Due Date: **May 4 by 5:00 pm**
Format: Write the paper from the perspective of an outside consultant.

EXAMS: There will be one in-term exam and the final exam.

In-term Exam: **February 27 distributed; March 5 collected**
Final Exam: **April 30 distributed; May 7 collected**

Make-up exams will be provided *only* for those students who have spoken with the professor *prior* to the exam *and* who have a *justifiable* reason for missing the exam. In add other cases, the student will receive a grade of zero (0) on the exam.

GRADING POLICY: The following proportions will be used for grading.

"Networking" Activities	5%
Class Participation	8%
Homework	10%
Progress Reports	15%
Analysis Project	20%
In-term Exam	20%
Final Exam	22%

So, to compute your final grade, you will take the grades (as described in previous sections) and substitute them into this equation:

Grade = .05*(Networking Activities) + .08*(Class Participation) +.10*(Homework)
+.15*(Progress Reports) + .20*(Analysis Project) + .20*(Midterm) + .22*(Final Exam)

This will give you a number between 0 and 100. Grades *may* be curved from the standard normal curve based upon the difficulty of my grading (not on the performance of the class).

Approximate letter grades will be assigned when exams and projects are returned. Students should remember, however, that the term average is a weighted average of the *numerical* grades, not an average of the approximate letter grades.

DISABILITIES: Students requiring special accommodations should meet with me during office hours so that we can discuss how to meet your needs this semester. Prior to our meeting be sure you have met with someone in the campus offices that supports student with disabilities (MSC 144). If, during the semester, you are experiencing a serious emotional trauma, please inform me of this before taking an exam; once an exam is taken the grade must be counted and no "retake" is possible.

SCHEDULE

Approximate Week[1]	*Topic*[2]	*Hoffer et al*	Gause/ Weinberg	Brooks
1	Introduction to Systems Analysis Systems Thinking	1	1-3	1-4
2	Information and its Value Creativity and Problem Solving		6	
2-3	Methodologies	4		5-9, 13, 16, 17
4	Project Goals Teams and Teamwork		4-6	7
4-6	Process Modeling Data Flow Diagraming Data Dictionaries Data Modeling Entity Relationship Diagrams Object Modeling Use Cases and UML CASE Tools	7, 8		14
7-8	Fact-Finding Techniques	6		6
9-10	Feasibility Analysis Managing Expectations	3,5	7-13	
11	Project Management	3, 4		11
12	SAD Standards and Measures			
13-14	System Requirements Prototypes JAD, RAD Estimation of System Costs	6, 7, 8, 11	14-20	10-12, 15
15	Ethics in Systems Analysis			

[1] Allocation of time to sections of material is subject to change. More specific information may be found at the online class schedule.

[2] Some topics will include outside speakers whose schedules must be accommodated. This may mean that topics and the time of their coverage will need some adjustment. A tentative schedule of these speakers will be provided; changes will be available on the Web-based schedule.