INF SYS 3810 -- INFORMATION SYSTEMS ANALYSIS
SECTION 01 -- FALL 2018

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Class: MW 11 - 12:15 in 005 ESH Twitter: @VLSauter
Office Hours: MW 12:30 - 1:30 pm; MW 5:00 - 5:30 pm or by scheduled appointment

TEXTS:

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. (Two copies are available on Reserve at the Library.)

Brooks, F.P. The Mythical Man-Month, Boston: Addison-Wesley, 1995. (An electronic copy is available under MyGateway and there is a copy on Reserve at the library.)

The Field Guide to Human-Centered Design (download for free; see canvas)

CLASS-ORIENTED WEB SITES:
Class Home Page http://www.umsl.edu/~sauterv/analysis/ba3810start.html
Syllabus http://www.umsl.edu/~sauterv/analysis/ba3810.html
Current page http://www.umsl.edu/~sauterv/analysis/ba3810current.html
Analysis Readings http://www.umsl.edu/~sauterv/analysis/analysis_links.html
Regular Homework on Canvas under “Announcements”
Semester Assignments http://www.umsl.edu/~sauterv/analysis/assgts.html
Class Schedule http://www.umsl.edu/~sauterv/analysis/ba3810schedule.html
HTML Readings http://www.umsl.edu/~sauterv/help/Links_HTML.html
Networking Events http://www.umsl.edu/~sauterv/analysis/event_schedule.html

GENERAL INFORMATION
Computing Information http://www.umsl.edu/technology/
Advanced IS Lab Information http://www.umsl.edu/business/mis/MISlab.html
Library Information http://www.umsl.edu/services/library/library.html
Networking Opportunities http://www.umsl.edu/~sauterv/analysis/event_schedule.html
Student Technology Guide http://www.umsl.edu/technology/publications/stutechguide/
Student Conduct Code http://www.umsl.edu/studentconduct
UMSL Home Page http://www.umsl.edu/
IS Home Page http://mis.umsl.edu/
Counseling Services http://www.umsl.edu/services/counseler
Canvas Resources http://www.umsl.edu/services/ctl/canvas/studentresources.html
Canvas Overview https://community.canvaslms.com/videos/1124

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, whichever 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 October 10 with a passing grade. (Note the University policy states that you may drop until September 17 without receiving a grade; this policy is simply an extension of the University policy.) Between October 10 and November 12, 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 16 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 December 5, 2018.

**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.

The class **Learning Objectives** are:

- Improve (creative) problem solving abilities
- Improve ability to work in a group
- Learn the foundations of systems analysis, including methodologies, standards, and tools for data acquisition and documentation
- Successfully complete a systems analysis project for a specific client by creatively applying methodologies, standards, and tools for data acquisition and documentation
- Understand the differences associated with a transnational analysis project
- Understand the application of ethics on an analysis project

Some of the specific concepts we will address:

- Creatively problem solve
- Learn from failures
- Work successfully with a group of your peers on a common problem
- Improve communication skills
- Understand the principles of SAD
- Understand SAD standards and measures thereof
- Understand methodologies and the differences among them
- Work with a variety of SAD methods, and tools
- Understand CASE 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
- Understand and apply human-centered design methods
- Understand cost benefit analyses
- Understand the role of risk in the process

- Analyze an existing information system (whether manual or automated)
- Document business processes
- Measure and document and their many perspectives
- Utilize observation, questionnaires and interview schedules to discover problems
- Document information system requirements
- Generate alternative solutions to an information systems problem and choose among them
- Prototype a new system
- Prepare and present a cost benefit analysis, including a risk assessment
- Successfully make a business case for a technological solution
- Successfully document and present a case for a client
**MY EXPECTATIONS:** I assume you are here to learn about systems analysis in preparation for your ultimate career. To accomplish that goal:

- You must come to class prepared; you must **read and think** about the material before you get here.
- You must practice 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.
- You must take responsibility for asking questions in class or office hours when you are confused.
- You must be courteous and respectful to me and your classmates, professionals who might attend class, and to your clients.
- You must write clearly, with a development of your concept, at the collegiate level.
- You must be respectful of others in the class in your use of computers. I will not monitor your use of computers. You must pay attention during class if you use computers.

Your success in this course is important to me. When I believe that the programs offered by Student Retention Services (SRS) will help you academically, I will send a referral via MyConnect, the campus Academic Alert System. The SRS offers assistance tailored to specific instructional needs.

**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:

- You must adhere to the Student Conduct Code.
- You must adhere to the Acceptable Use of Computing Code.
- You must contribute to a climate for learning characterized by intellectual diversity and a respect for each other, and the contributions each person makes to class.
- You must commit to a positive learning environment by respecting that University policy. I expect you to make a similar commitment. In particular, I refer you to the University’s *Collected Rules* 200.015, which says, “Information about student views, beliefs, and political associations that fellow students acquire in the context of course discussions should be handled responsibly. Students are encouraged to be sensitive to the potential that dissemination of information about fellow students derived from course discussions may be perceived as defamatory and/or may subject them to ridicule, harassment or reprisal from those who do not agree with the views, beliefs or political associations expressed in the course.”
- You must turn off (or at least silence) your phones and other electronic devices before entering class; do not talk on the phone in class.
- You must come to class on time. In those rare cases where being late is unavoidable, please enter the classroom quietly (preferably by the north entrance) 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; talking with friends and even relatives rarely constitute an emergency.
- You must 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.
- You must keep talking with your neighbor to a minimum as it creates difficulty for participants to hear what is being discussed in class. If you are confused about something in class, please ask me - that is my job and I am happy to answer questions.
- You must use computers quietly.
- You must pay attention, not talk with your neighbors, and not use computers improperly when we have guest speakers.
- You must bring a handkerchief or tissue to class to blow your nose in the event that you get the sniffles.
- You must pay attention in class; 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.

**TITLE IX REQUIREMENTS:** Under Title IX, all UMSL faculty, staff, and administrators (with limited exception)
are obligated to report any incidents of sexual harassment, sexual misconduct, sexual assault, or gender discrimination to the Student Affairs office and/or other University officials. This ensures that all parties are protected from further abuses and that victim(s) are supported by trained counselors and professionals. Note: There are several offices at UMSL (e.g., Counseling Services, Health Services, Community Psychological Service, Center for Trauma Recovery, and Student Social Services) whose staff are exempt from Title IX mandated reporting, when the information is learned in the course of a confidential communication.

**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. Still others will be turned in through Canvas. Never email assignments to me unless I explicitly ask for it to be so sent. 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. Note the grading rubric on MyGateway.

• **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
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 of 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.

QUZZES: There will be quizzes throughout the semester to ensure that you are keeping up with your reading. These will generally be announced on the Announcements page in Canvas.

Your grade in class participation is an average of (1) your quiz grades, (2) the percentage of class participation activities completed, and (3) the percentage of blog assignments completed. So, if you received a grade of 78 on the group forming exercise, received an average of 80% on quizzes, participated in 50% of the class activities, and did no blogs (0%), then your class participation grade would be 52.

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 submitted 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 one 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 27). 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 on my Google drive.

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:** October 15
- **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.

Your first Team Evaluation form is due on **October 22**

**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:** October 31
- **Content:** This assignment should include appropriate diagrams.

**Questionnaire:** One of the tools systems analysts use to determine and refine user requirements is a questionnaire. 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 a questionnaire to use for collecting data for your project. You must turn in a copy of the questionnaire 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:** November 7
- **Content:** You must provide the set of questions for your 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.

**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.

- **Due Date:** November 14
- **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.

**Cost-Benefit Study:** It is important to show the benefits of the project are significant, i.e., that the benefits outweigh the costs of completing the project. We will discuss more about what is included in a feasibility analysis in class, or you can check the website.

- **Due Date:** December 3
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: December 10, 10-noon (during final exam period)
Paper Due Date: December 8 by 5:00 pm
Format: Write the paper from the perspective of an outside consultant. Provide two “hard” copies plus and electronic copy.

As you consider written materials you might provide this semester, please check the writing rubric available on MyGateway.

Your final Team Evaluation form is due by December 12

EXAMS: There will be two in-term exams.
Exam 1: Distributed on October 3; Due on October 10
Exam 2: Distributed on November 11; Due on November 19

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 all 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: 10%
- Homework: 10%
- Progress Reports: 15%
- Analysis Project: 20%
- Exam 1: 20%
- Exam 2: 20%

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) + .20*(Class Participation) + .10*(Homework) + .15*(Progress Reports) + .20*(Analysis Project) + .20*(Exam 1) + .20*(Exam 2)

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). Substituting the points computed in the individual sections, assuming a 67 on Exam 1, an 81 on your project, and a 77 on Exam 2, you would compute

Grade=.05*(100) + .20*(52) + .10*(55) + .15*(70.8) + .20*(81) + .20*(67) + .20*(77) = 71.82

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.

**RELIGIOUS OBSERVANCE:** I am committed to creating an inclusive campus community that values and respects all its members, and achieves educational excellence through diversity and nondiscrimination. This includes supporting students regardless of their religious affiliation or non-affiliation. I will make a good faith effort to accommodate your religious practice or belief, unless such accommodation would create undue hardship. Accommodations for makeup assignments, presentations, homework, quizzes, or exams should be arranged with me early in the semester and well in advance of the anticipated class absence and requested accommodation. To request an accommodation for a religious observance, submit the form to me as the semester begins and no later than two weeks prior to the religious observance. Submit a separate form for each observance.
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¹ Allocation of time to sections of material is subject to change. More specific information may be found at the online class schedule. These dates are approximate.