INF SYS 6840 -- INFORMATION SYSTEMS ANALYSIS  
SECTION G01 -- FALL, 2017

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W 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 class website)

CLASS-ORIENTED WEB SITES:
Class Home Page  http://www.umsl.edu/~sauterv/analysis/is6840start.html  
Syllabus  http://www.umsl.edu/~sauterv/analysis/is6840.html  
Current page  http://www.umsl.edu/~sauterv/analysis/is6840current.html  
Analysis Readings  http://www.umsl.edu/~sauterv/analysis/analysis_links.html  
Assignments  http://www.umsl.edu/~sauterv/analysis/assgts.html  
Class Schedule  http://www.umsl.edu/~sauterv/analysis/is6840schedule.html

OTHER USEFUL WEBSITES:  
HTML Readings  http://www.umsl.edu/~sauterv/help/Links_HTML.html  
Networking Events  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

PREREQUISITES:  Inf Sys 6805 (Applications of Programming for Business Solutions)

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 October 18 with a passing grade. (Note the University policy states that you may drop until September 19 without getting a grade; this policy is simply an extension of the University policy.) Between October 19 and November 14, 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 November 14 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 6, 2017.

**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 an 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. Learn about the MyConnect system in the online Student Planner, http://www.umsl.edu/~umslsrs/Academic%20Intervention%20Programs/alert.html.

**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 kinds 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' 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.

**The Paper:** Each student will prepare a paper on a topic of systems analysis. The paper is intended to provide insights into the area which the student explores above and beyond that which is available in the textbook, or the supplementary readings for this class. The paper will be prepared as a Web-based Paper. It must, however, have at least 10 references to scholarly journals, and at least 10 links to web resources on the topic. As such, it must have the content level of a traditional 10-15 page paper, summarizing, integrating and evaluating all of the material found. All topics must be approved by Dr. Sauter no later than September 20. Even if you discuss it after class, email the topic to her.

**Due Date:** November 1 at 11:59 pm

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

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“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, 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. The additional event will count as 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.

ANALYSIS PROJECT: 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 each assignment is due, group members must evaluate the amount of work done by others in the group using the Team Evaluation Form.

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. It must include some survey of users and a prototype of the new system. 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.

Presentations: December 13 during class
Due Date: December 8 (by 5 pm)
Format: Write the paper from the perspective of an outside consultant. Provide two “hard” copies plus electronic copy.

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

EXAMS: There will be one exam, November 30

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.

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<td>Networking Activities</td>
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<td>Term Paper</td>
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<td>Analysis Project</td>
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<td>Exam</td>
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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.

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.

**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**

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<tr>
<th>Approximate Week^1</th>
<th>Topic^2</th>
<th>Hoffer et al</th>
<th>Gause/Weinberg</th>
<th>Brooks</th>
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<td>1-2</td>
<td>Introduction to Systems Analysis</td>
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<td>Systems Thinking</td>
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<td>2-3</td>
<td>Business Rules</td>
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<td>Creativity and Problem Solving</td>
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<td>3-4</td>
<td>Creativity Continued</td>
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<td>Information and its Value</td>
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<td>5</td>
<td>Methodologies</td>
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<td>Fact-Finding Techniques</td>
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<td>18-19</td>
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<td>Teams and Teamwork</td>
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<td>International Issues in Analysis</td>
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<td>8-9</td>
<td>Process Modeling</td>
<td>7, 7A</td>
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<td>Data Flow Diagraming</td>
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<td>10</td>
<td>Data Modeling</td>
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<td>Entity Relationship Diagrams</td>
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<td>Use Cases and UML</td>
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<td>11</td>
<td>Project Management</td>
<td>3, 3A</td>
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<td>11-12</td>
<td>System Requirements</td>
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<td>Cost-Benefit Analyses</td>
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<td>Security and Risk</td>
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<td>SAD Standards and Measures</td>
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<td>15</td>
<td>Ethics in Systems Analysis</td>
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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.