Syllabus: Course INFSYS 4850
Information Systems Design

About this course:

Required Text: Scott Tilley and Harry J. Rosenblatt

Course Description: System design, implementation, and methods of systems installation and operation are presented. A system development project is required. This course builds on the skills learned in INFSYS 3810 (Information Systems Analysis) and has at its core the design, development and implementation of an information system.

Prerequisites: INFSYS 3845, INFSYS 3810, one of either INFSYS 3815 or INFSYS 3816, and a minimum COBA GPA of 2.3.

Learning Objectives
By the end of the semester, students will be able to:
1. Analyze a business process to determine process deficiencies
2. Completely document the relationships between entities and processes
3. Design and implement an information system to solve a business process deficiency
4. Fully document a new information system including all user-facing and all development-team facing components
5. Significantly contribute to a team of IS students to successfully analyze, document, design and implement a complete information system

Assessment/Grading

<table>
<thead>
<tr>
<th>Grades:</th>
<th>Points</th>
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<tbody>
<tr>
<td>10% Group lectures/exercises and active class participation</td>
<td>200 Points</td>
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<tr>
<td>20% Final Term Paper</td>
<td>400 Points</td>
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<tr>
<td>70% Group IS Design Project</td>
<td>1400 Points</td>
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<tr>
<td>Total</td>
<td>2000 Points</td>
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Expectations:
- Students are expected to actively contribute to class discussions and participate in exercises.
- Late assignments will not be accepted except in the case of a documented medical emergency.

Attendance Policy:
- Students are expected to be present in class.

Group IS Design Project:
- During the first weeks of the semester, teams will be formed with the goal to diffuse the level of IS skill as well as the exposure to possible design project opportunities. The
selection of a “problem” to solve by the creation of a new system as well as the tools used for the creation will be the responsibility of the team. The system that you analyzed in Systems Analysis is “fair game” for this class since the design of an information system depends on an accurate analysis of the system needs. It is expected that the analysis tools learned in Systems Analysis will be utilized.

- Since the design project will be the result of a group effort (all group members will initially receive the same grade), you will have the opportunity to evaluate your team members (at least twice during the semester). Note: the team’s assessment of an individual’s performance will affect (favorably or adversely) that individual’s grade.
- The projects will be judged on the ability of the application and documentation to meet the needs of the user as detailed in the Baseline Project Plan, the Statement of Work and the System Proposal.
- Presentations (both oral and written) are expected to be of professional quality. This includes format, correctness and style.
- Expect to spend considerable time outside of class designing and testing your system.
- Additional information will be distributed later in the semester concerning the projects.

"No one can education you. You must talk, you must read, you must build, you must listen. Merely being present as someone else tries to pour something into you does not mean that you are learning. You must be actively engaged (Schanker, 1990)."
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Group Project Milestones Schedule and Weighting

Total Points for Project: 1400 (70% of Final Grade)

<table>
<thead>
<tr>
<th>Presentations 400</th>
<th>Points</th>
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</thead>
<tbody>
<tr>
<td>1. ISP and RFP (Client’s perspective)</td>
<td>100</td>
</tr>
<tr>
<td>2. Proposal Package: Overall System Proposal, Baseline Project Plan, Problem Statement and Project Schedule including “working” prototype. (Team’s perspective)</td>
<td>100</td>
</tr>
<tr>
<td>3. Status Presentation: Application Review</td>
<td>0</td>
</tr>
<tr>
<td>4. Status Presentation: System Preview</td>
<td>50</td>
</tr>
<tr>
<td>5. Final Presentation to Class and Clients</td>
<td>150</td>
</tr>
<tr>
<td>Total for Presentations</td>
<td>400</td>
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Details for presentations

1. ISP and RFP: 20-minute presentation from the client’s perspective describing their institution, its history and mission, the major business functions and processes. Be sure to describe the IT environment (inventory and constraints) Use text and examples as guides for completeness. You are encouraged to submit your slides one week early for a quick review.

2. Proposal Package and Prototype (System Proposal/BPP/Problem Statement and Schedule) 20-minute presentation showing your team’s response to the client’s proposal. This presentation has two audiences: it is aimed at both the client as well as a steering committee. The presentation should articulate the proposed system’s capabilities, the capabilities of the team, the project feasibility, the technical and management strategy and the schedule. Include the current status of project and results from client interviews. Include a run through of the prototype. You should try to “win” the contract. You are encouraged to submit your slides one week early for a quick review.

3. Application Review: No paper deliverable due. Presentation is to show the current state of the application as it exists.

4. Status Presentation System Review: No paper deliverable due. 30-minute presentation showing complete system including screens, reports, data architecture, user documentation and training manuals.

5. Final Presentation to Class and Clients: Formal, professional, 30-minute presentation showing all capabilities of system including inputs, outputs and operation of system including context sensitive help.
System must be fully operational. Clients are required to attend. All remaining deliverables due. Professional attire required for all team members. Team is to provide light refreshments to audience and allow time for questions/answers.

<table>
<thead>
<tr>
<th>Milestones 1000 Points</th>
<th>Points</th>
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<tbody>
<tr>
<td>1. Information Systems Plan and RFP <em>(Client’s perspective)</em></td>
<td>150</td>
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<tr>
<td>2. Proposal Package: System Proposal, BPP, Problem Statement, Prototype and Schedule <em>(Team’s perspective)</em></td>
<td>150</td>
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<tr>
<td>3. User Documentation</td>
<td>350</td>
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<tr>
<td>• Users’ Manual</td>
<td></td>
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<tr>
<td>• Training Plan</td>
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<tr>
<td>• System Requirements</td>
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<td>• Backup and recovery procedures</td>
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<tr>
<td>• Installation plan</td>
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<tr>
<td>• Support plan</td>
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<tr>
<td>• Updated Baseline Project Plan</td>
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<tr>
<td>• Updated System Proposal</td>
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<tr>
<td>• Design specifications for all forms, reports, dialogues and interfaces</td>
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<tr>
<td>4. System Documentation</td>
<td>350</td>
</tr>
<tr>
<td>• Current system dataflow diagrams and narratives of diagrams (Context and at least Level 0 and Level 1 decompositions)</td>
<td></td>
</tr>
<tr>
<td>• Proposed system dataflow diagrams and narratives of diagrams (Context and at least Level 0 and Level 1 decompositions)</td>
<td></td>
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<tr>
<td>• Current system E-R Diagrams and narratives of diagrams</td>
<td></td>
</tr>
<tr>
<td>• Proposed system E-R Diagrams and narratives of diagrams</td>
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<tr>
<td>• Minutes from meetings with users including design specifications gained from meetings</td>
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<tr>
<td>• All program code, the Data Dictionary and data validation rules (Repair Manual)</td>
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<tr>
<td><strong>Total for Milestones</strong></td>
<td><strong>1000</strong></td>
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Details for Milestones

1. Information Systems Plan (ISP) (Written from the Client’s perspective). This 10 - 15 page professional plan should show an overview of the short and long range plans for your client as they relate to IT. It should include the Mission, Objectives and Strategy (with an emphasis on IT). It should also include all business processes. Use text and examples as guides for the organization and content. You are required to incorporate client specific information.

Request for Proposal (RFP) (Written from the Client’s perspective): This 10 – 15 page professional proposal should highlight the needs of your client as they relate to the specific needs identified in the ISP. It should include all of the details necessary (i.e. business processes, needs, desires and constraints). While there will be some overlap with the ISP (enough to have completeness and continuity), this should be far more detailed as it relates to the specific, short range needs for the system you will ultimately create. The RFP must be actionable.

2. Proposal Package (Written from the Team’s perspective): Overall System Proposal, BPP, Problem Statement and Schedule: This 20 – 25 page proposal should accomplish 4 tasks:
   1. Respond to the specific needs addressed by your client in their ISP and RFP with sufficient detail to allow the client to make an informed choice.
   2. Accurately and specifically detail the system you will create for your client (including processes, reports and interfaces).
   3. Detail the talents, skills and capabilities of the team and the proposed project schedule (including accountability).
   4. Detail the technical and management strategy the team will employ.

3. User Documentation: A single, bound, professional document containing all user-facing documentation for the system. This is to include:
   - Users’ manual for desktop use by the actual users of the system and include menu trees, screen hierarchy and help files.
   - Training plan including detailed description of “classes” to be given to users. Should include separate sections for each view (i.e. manager/customer).
   - Backup procedures and disaster recovery manual.
   - System requirements required to install and operate system.
   - Baseline Project Plan (updated and including summary of changes).
   - System Proposal Package (updated and including summary of changes).
   - Design specifications for all forms, reports dialogues and interfaces.
   - Installation Plan including support plan for the future of the project (i.e. after the semester ends).

4. System Documentation: A single, bound, professional document containing all supporting documents which detail the development and maintenance of the system. This is to include:
   - Context Diagram and Dataflow diagrams for current and proposed systems. Include narrative of processes described by diagrams. These should include decomposition to at
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At least the Level 1 detail. Be sure to indicate whether the diagram represents the current system, or the proposed (new) system.

- E-R Diagrams of all entities in both the current and proposed systems including narrative of diagrams.
- Data Dictionary including data specifications and data validation rules. *Must include meaningful descriptions of entities, attributes and processes.*
- Minutes from meetings with users including design specifications gained from meetings.
- Repair manual for use by IS personnel who will have to maintain/repair your system. It should include all code for your system (the backend of all components).

NOTE: There are no points assigned to the “quality” of the code. It is assumed and required that the applications will run and completely meet the specifications outlined in the system proposal, the SOW and the BPP. The application must also include integrated, context sensitive help. The applications must run and be error free. *An application that crashes during grading will result in a zero (0/1400).*

Include electronic copies of all deliverables on the final shared drive.

*Be sure to include all passwords necessary.*

*ANY EXTERNAL, PERSONAL ASSISTANCE IN CODE WRITING OR DOCUMENT CREATION MUST BE APPROVED IN ADVANCE BY THE INSTRUCTOR. EXISTING CODE LIBRARIES OR WEB – BASED HELP ARE PERFECTLY ACCEPTABLE, BUT RECEIVING HELP FROM NON-FACULTY “CONSULTANTS” IS CONSIDERED CHEATING. IF IN DOUBT, ASK.*

Academic Honesty: Students are expected to adhere to the University of Missouri’s policy on Academic Honesty.

Academic Integrity/Plagiarism:

- You are responsible for being attentive to and observant of University policies about academic honesty as stated in the [University’s Campus Policies](#) and [Code of Student Conduct](#) found in the UMSL Bulletin.
- Academic dishonesty is a serious offense that may lead to probation, suspension, or dismissal from the University. One form of academic dishonesty is plagiarism – the use of an author's ideas, statements, or approaches without crediting the source. Academic dishonesty also includes such acts as cheating by using any unauthorized sources of information and providing or receiving unauthorized assistance on any form of academic work or engaging in any behavior specifically prohibited by the faculty member (e.g., copying someone else’s answers on tests and quizzes). Unauthorized possession or distribution of academic materials is another type of academic misconduct. It includes the unauthorized use, selling or purchasing of examinations or other academic
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work, using or stealing another student's work, unauthorized entry or use of material in a computer file, and using information from or possessing exams that an instructor did not authorize for release to students. Falsification is any untruth, either verbal or written, in one’s academic work. Facilitation is knowingly assisting another to commit an act of academic misconduct.

**Plagiarism, cheating, and falsification are not acceptable.**

- All instances of academic dishonesty will be reported to the Office of Academic Affairs who will determine whether you will appear before the Student Conduct Committee for possible administrative sanctions such as dismissal from the university. The instructor will make an academic judgment about the student’s grade on that work in this course. The campus process regarding academic dishonesty is described in the “Policies” section of the Academic Affairs website.
- **Follow the AMA style for your reports.**
- Plagiarism is the use of another person’s words or ideas without crediting that person.
- Plagiarism and cheating will not be tolerated and may lead to failure on an assignment, in the class, and dismissal from the University, per the UMSL academic dishonesty policy.
- Students are responsible for being attentive to and observant of campus policies about academic honesty as stated in the University’s Student Conduct Code.
- To avoid accusations of academic dishonesty, please submit all written work to the Turnitin System before finalizing what you submit for evaluation. Check information about The Writing Center on UMSL’s website.

**Mandatory Reporting:** 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.

**Content Advisory:** The course requires good logical skills and knowledge of materials from the pre-requisite courses. Some of the concepts require abstract thinking and ability of apply college level algebra.
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Student Resources

Access, Disability and Communication
Your academic success is important. If you have a documented disability that may have an impact upon your work in this class, please contact Disability Access Services (DAS) immediately. Students must provide documentation of their disability to the office of Disability Access Services in order to receive official University services and accommodations. The staff is available to answer questions regarding accommodations or assist you in your pursuit of accommodations. Information about your disability is confidential. Once DAS reviews your medical documentation, they will provide you with the information and steps to inform me about the accommodations to which you are entitled. Your accommodations will begin as soon as we discuss your approved accommodations.

- 144 Millennium Student Center (MSC)
- Phone: (314) 516-6554
- Email: Tara Cramer, cramert@umsl.edu
- Website: http://www.umsl.edu/services/disability/

Office of International Students and Scholar Services
If you have difficulty communicating in English with the instructor of this course, contact ISS.

- 362 Social Sciences & Business Building (SSB)
- Phone: (314) 516-5229
- Email: iss@umsl.edu
- Website: http://www.umsl.edu/~intelstu/contact.html

Student Enrichment and Achievement
SEA provides comprehensive support and intervention strategies that support your road to graduation!

- 107 Lucas Hall
- Phone: (314) 516-5300
- Email: umslsea@umsl.edu
- Website: https://www.umsl.edu/services/sea/

Office of Multicultural Student Services (MSS) and the University Tutoring Center (UTC)
MSS provides comprehensive student retention services to diverse student populations; through their tutoring center, the MSS offers comprehensive tutoring services free to students at UMSL.

- 225 Millennium Student Center (MSC)
- Phone: (314) 516-6807
- Email: multicultural@umsl.edu
- Website: https://www.umsl.edu/~mcraa/index.html

More Student Resources are on the Learning Resource Lab website.
Technical Support

Canvas
If you have problems logging into your online course, or an issue within the course site, please contact the

Technology Support Center:
• Phone: (314) 516-6034
• Email: helpdesk@umsl.edu
• Website: http://www.umsl.edu/technology/tsc/

If you are having difficulty with a technology tool in Canvas, consider visiting the Canvas Student Guides, which has overviews of each tool and tutorials on how to use them.

If you continue to experience problems or just have questions, you can also contact the

Learning Resource Lab:
• Phone: (314) 516-6704
• Email: lrl@umsl.edu
• Website: http://www.umsl.edu/technology/lrl/

VoiceThread
• Online Contact Form: https://voicethread.com/support/contact/
• Website: https://voicethread.com/howto/

Academic Support

Math Academic Center (Math Lab)
The Math Academic Center offers free individual assistance on a walk-in basis to students needing help with any mathematics from basic math through calculus or any course involving mathematical skills.
• 222 Social Sciences and Business Building (SSB)
• Website: http://www.umsl.edu/mathcs/math-academic-center/