Course Syllabus
University of Wisconsin – Milwaukee (UWM)
School of Information Studies (SOIS)

Course Title
Introduction to Systems Analysis

Semester
Fall 2017

Course and Section Number
INFOST 340 – 201

Meeting Times and Location
Online

Instructor
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Online Office Hours / Lab Sessions
Every Tuesday evening, I will be holding an Office Hours / Lab Session using the GoToMeeting Platform. I encourage you to drop by to review solutions to recent Skills Practice Assignments, to ask a question, to get help with your Skills Practice assignments, to get help with your project, or just to say hello. Please use a headset when joining this session. Note that individual meetings may be arranged on other days and at other times. To arrange such a meeting, contact me via email. You may join the GoToMeeting session using this link.

Please note that participation in Online Office Hours / Lab Sessions is optional. For those who are unable to attend, I will post links to recordings of these sessions to our Weekly Schedule on the following day.

Catalog Description
Theories, principles, and tools for planning, organizing, assessing, and evaluating information. Emphasizes the importance of user's perspective. Covers the various stages of systems analysis and outline the appropriate methods for each stage. 3 credits.

General Description
This is an introductory course in systems analysis for computer-based information systems. Systems analysts are primarily responsible for eliciting user requirements, proposing a systems solution that meets those requirements, and creating a model of the requirements and a proposed solution that can be understood by both system users and system developers. Systems analysts also get involved in project identification, planning, management, supervision of detailed system design, and supervision of system construction. The audience for this course includes anyone who is interested in the analysis and design of computer-based information systems.

Required Texts

Hoffer, J. A., George, J. F., & Valacich, J. S. (2014). *Modern Systems Analysis and Design (7th ed.)*. Boston: Pearson. **ISBN-10:** 0132991306. **ISBN-13:** 978-0132991308. *Please note: This text is available in hardcover, as an e-Textbook, and in a paperback international edition. Any of these 7th Edition versions of the textbook will suffice.*

Software

Many assignments for the course will require you to create diagrams (data flow diagrams, use case diagrams, activity diagrams, entity-relationship diagrams, state-transition diagrams, etc.). The required software for creating these diagrams is Microsoft Visio Professional 2016. This software is available to SOIS students via the Microsoft Imagine Program and can be downloaded via the SOIS Free Software eAcademy page at https://www4.uwm.edu/sois/resources/it/eacademy/index.cfm .

Microsoft Visio is a Windows-only product. Students using an operating system other than Windows may find it easiest to get access to Visio by using the SOIS Virtual Lab. For more information on using the SOIS Virtual Lab, please visit the SOIS Virtual Lab Information page at https://www4.uwm.edu/sois/resources/it/virtuallab/ .

Some students who are running MacOS as their host operating system may want to install VMware Fusion 8.0 (for Mac OS X) in order to create a Windows guest operating system under which Visio can run. This is the approach that I use on my own MacBook Pro. To download VMware fusion, please visit the SOIS Free Software eAcademy page at https://www4.uwm.edu/sois/resources/it/eacademy/index.cfm .

Students wishing to use alternative diagramming tools **must** contact me for approval **before** using them to complete assignments.

Course Topics

- Understanding the Role of the Systems Analyst
- The Systems Development Environment
- The Origins of Software
- Initiating and Planning Systems Development Projects
- Determining System Requirements
    - Business Process Modeling
- Structuring System Process Requirements
    - Context Diagrams
    - Use Cases
    - Activity Diagrams
- Structuring System Data Requirements
    - Conceptual Data Modeling
- Designing Interfaces and Dialogues
- Designing Distributed and Internet Systems
- System Implementation
- Maintaining Information Systems

Course Objectives

- Explain the role of the systems analyst in understanding the needs and managing the expectations of the project stakeholders.
- Explain how to identify and initiate a viable project.
- Explain how to plan, elicit and gather system requirements effectively.
- Create a model of the requirements that can be used to get the informed approval of stakeholders.
- Suggest a preliminary design for an effective systems solution that meets the requirements.
- Create a model of the requirements that can be used either to construct a new information system or to serve as the basis for selecting a vendor-supplied information system.
- Explain the potential role of the systems analyst in supervising the creation of detailed system design specifications, as well as the construction, testing, and approval of the system solution.
- Write a report that persuades stakeholders that the proposed system should be implemented.

Instructional Methods

- Reading
- Recorded Lectures and Tutorials
- Discussion posts via D2L forums
- Discussion during Online Office Hours / Lab Sessions
- Student presentation of Skills Practice Assignment solutions during Online Office Hours / Lab Sessions
- Quizzes
- Skills practice assignments
- Student project

Course Schedule

The schedule for this course will be available via our Weekly Schedule at:

http://courseinfo.ligent.net/2017fa/_uwm/infost340_201/index.html

The course schedule is always subject to reasonable change to account for changes in circumstance and to correct errors. When I make changes to the schedule, I will announce them via D2L Announcements and email.

Work Required of Students

Estimated Workload

The total number of hours estimated for you to complete the work required for this course is 145 hours. The actual amount of time required will vary according to your prior experience and expertise. Grades will be based on the work output that you produce and submit rather than by the time that you expend on the assignments.

Reading

There are required readings from the Hoffer text during nearly every week of the course. Other required and optional readings are assigned as appropriate throughout the course. The reading assignments for a particular week can be found in the Weekly Schedule. I recommend that you

do any reading assignments for a particular week before watching any lecture or tutorial videos that are assigned.

Viewing Tutorials
Several tutorial videos will be available for your viewing. You will find a list of assigned videos for each week in the Weekly Schedule. I recommend that you view any tutorials assigned for a particular week before attempting quizzes or completing work on Skills Practice Assignments.

Participation
Please note that the Participation grade component is substantial (10% of your overall grade). So, please take the following activities seriously:

a. Each student is expected to contribute regular significant posts to the discussion forums for the class. These should include:
   1) 1 post to the *Introduce Yourself Forum* during Week 1 of the semester.
   2) Regular posts to the *Open Discussion Forum*. This is an alternative participation channel for those who are not able to attend the optional Online Office Hours / Lab Sessions (see below).
   3) Regular posts to the *My Group Forum* once groups have been formed and the forums created. In addition to the exchange of comments regarding the final project, this forum will support the posting of draft copies of project documents in anticipation of feedback from other group members.
   4) Each student is expected to read all of the posts of other students made in all of the discussion forums and respond with short posts when appropriate.

b. Every Tuesday evening, I will be holding an Office Hours / Lab Session using the GoToMeeting Platform. I encourage you to drop by to review solutions to recent Skills Practice Assignments, to ask a question, to get help with your Skills Practice assignments, to get help with your project, or just to say hello. Please use a headset when joining this session. Note that individual meetings may be arranged on other days and at other times. To arrange such a meeting, contact me via email. You may join the GoToMeeting session using this link.

   Please note that participation in Online Office Hours / Lab Sessions is optional. For those who are unable to attend, I will post links to recordings of these sessions to our Weekly Schedule on the following day.

Participation grades will be based upon the number of participation points earned during the semester. These are the activities through which you can earn participation points:

Activity	Points Earned
1 post to a forum	1
1 speaking contribution during Online Office Hours / Lab Session	1
1 presentation of your Skills Practice solution during Online Office Hours / Lab Session	5

Quizzes
Quizzes will be used as a learning assessment tool during weeks in which there is no Skills Practice Assignment. Questions will be based upon the textbook readings and the lectures. Quizzes will be administered using the D2L quiz feature. You will be allowed to make multiple attempts at each quiz. Grades will be based upon the most successful attempt. Each quiz will close at the week-ending deadline. No attempts will be allowed after the week-ending deadline.

Skills Practice Assignments
Your major work product for this course will be 3 Project Assignment Deliverables (see below). The Project Assignment Deliverables will contain a collection of documents and diagrams that pertain to your case project. Unless you are already a practicing systems analyst, most of these documents and diagrams will be new to you.

The purpose of the Skills Practice Assignments is to give you the opportunity to practice with the tools and techniques that you will need to produce each document and diagram for your Project Assignment Deliverables. The assignments are timed so that you should have the opportunity to practice each skill before you need to use it on your Project Assignment. Later, when you are creating each of your deliverables, you will be able to pay more attention to whether you have understood and expressed the stakeholders' requirements than to whether you understand how to create the documents.

In my experience, most of the tools and techniques that you will be learning in this class are easier to watch others use than they are to use yourself. During lectures, I may lecture on a particular document or diagram. Then, I will show you a finished version. In some cases, I will even demonstrate the step-by-step creation process for the diagram in a tutorial. Then I will assign a Skills Practice Assignment that will be due by the week-end deadline. If you are like most of us, you will find the assignment harder to do than you expected. Often, you will struggle over how detailed or how summarized to make your document. Or, techniques that looked easy will suddenly seem much harder. As I mentioned earlier, you can feel free to consult with others for appropriate advice. Finally, you will complete the assignment as best you can and submit it.

Solutions to the Skills Practice Assignments will be reviewed in the next Online Office Hours / Lab Session. One or two students will be asked to present their work and we will discuss it (constructively and supportively). Then, I will present my version of the assignment solution (never perfect) and we will discuss that as well. The real learning comes from the combination of having tried the skill and the subsequent discussion. Those who have really done the work before the week-ending deadline will get that benefit. Those who wait and do the work later will get a greatly reduced benefit. Having seen our solutions, they will miss out on the benefit of having tackled one of these problems from scratch.

A major goal for this course is to build your proficiency in self-evaluation of your work. Working systems analysts need to submit documents to project stakeholders that build the stakeholders confidence in the systems analysts' abilities. To build this skill, I will expect you to be able to estimate your grade on each Skills Practice Assignment. After each Skills Practice Assignment, we will review solutions during the Online Office Hours / Lab Session. Further, I will publish a copy of my solution on our D2L site. These published solutions and solution discussions will serve as your primary feedback for the Skills Practice Assignment.

As secondary feedback, your Skills Practice Assignment submissions will be graded and commented upon. Feedback will be published to the D2L assignment submission activity. Due

to the size of the class, you can expect to get grading and comment feedback two to three weeks after the due date for the assignment.

The grading rubric for Skills Practice Assignments has been designed to promote two important behaviors:

- Submitting your work in a properly named and formatted file. This helps substantially with grading workflow.

- Submitting your work by the week-ending deadline. This allows you to participate fully in discussions of exercise solutions during Online Office Hours / Lab Sessions.

While separate grading rubric and assignment submission instructions documents will be published, the following is a summary of the grading rubric features:

- 10 points will be awarded for submitting a single, properly named and properly formatted file to the proper D2L assignment submission activity.

- A minimum of 75 points will be awarded for submissions that are submitted on time, and that demonstrate a good faith effort on all parts of the assignment. Late submissions will be awarded 74 points or less in this category.

The implication of this grading rubric is that you can expect a score of 85 or more on all assignments that meet both of these criteria.

Project Assignment

You will be expected to plan and execute a simulated systems analysis and design project that is based upon a case scenario. I have created five different case scenarios on which students will base their projects. No two students who are assigned to the same group will be assigned the same case scenario. This will leave you free to consult with and seek the counsel of members of your group. You will each be doing the same work for a different project scenario.

You are free to discuss your project within your own group. Yet, to promote academic honesty and independent work, I require that you do not consult with members of other groups who are working on the same project scenario as you.

Remember that you will not be implementing this system as part of your course work. You will be doing the planning, the systems analysis, recommending an implementation approach, and doing some parts of the system design for that recommended approach. Your work will be presented in 3 deliverable documents that are due at different times during the semester (see Weekly Schedule).

Project Assignment Deliverables
To complete your project assignment, you will submit 3 deliverable documents during the semester. These are:

1. Project Plan
   This deliverable will set the stage for the rest of the project. While the exact requirements for this document will be published separately, you can expect to produce the following:

   - Identifying the subject organization and its stakeholders
   - Identifying the nature and scope of the problem (or opportunity) to be addressed.
   - Presenting a plan for further requirements elicitation and gathering.

2. Systems Analysis
   This deliverable will identify the requirements against which any proposed solution must be measured. While the exact requirements for this document will be published separately, you can expect to produce the following:

   - A context diagram that describes the scope and high-level data flow of the computer-based information system.
   - Use case diagram(s) that describe the scope and organization of functional requirements for the computer-based information system.
   - Use case specifications that describe the process flows, scenarios, and other related information for each use case.
   - An activity diagram that illustrates the details of a complex scenario described in one of the use case specifications.
   - A conceptual data model that describes the requirements for the data store necessary to persist data required by the computer-based information-system.
   - A state-machine diagram that documents the various states and transition conditions applicable to a major construct within the data model.

3. Proposed Solution
   This deliverable will identify a proposed solution and provide key design details. While the exact requirements for this document will be published separately, you can expect to produce the following:

   - Technical Architecture
   - Screen designs
   - Report designs

I will be publishing a separate requirements document for each of these 3 Project Assignment Deliverables. Requirements will include a required outline for you to follow when writing your report as well as a grading rubric that we will use to grade the assignment. The grading rubric will also address the issue of points to be deducted for late submission and the date beyond which a submission will not be graded and zero credit will be earned.

Only Submit Your Own Work
All work that you submit for this course must be your own. So direct copying of the work of others (current students, past students, me, or others) is prohibited. Nevertheless, I encourage you to consult with members of your group or with me prior to handing in your work. Feel free to show the current state of your work to anyone in your group and ask for feedback, suggestions or encouragement. I also encourage you to review the work of others that is not a direct solution to the assignment at hand (examples in textbooks, examples on the Internet, or an example that a group of people might work through on a white board). Collaborate as much as required in order to fully understand the techniques needed to do your assignment. Systems analysis is not a solitary activity. So, learning systems analysis need not be a solitary activity either.

Grading

Basis for Determining Grade
The various components of student work will contribute to the final grade based upon the following percentages:

- Participation: 10%
- Quizzes and Skills Practice Assignments: 40%
- Project Assignment Deliverables: (50%)
  - Project Plan 5%
  - Systems Analysis 35%
  - Proposed Solution 10%

Letter grades will be determined as follows:

- A 93 - 100%;
- A- 90 - 92%;
- B+ 87 - 89%;
- B 83 - 86%;
- B- 80 - 82%;
- C+ 77 - 79%;
- C 73 - 76%;
- C- 70 - 72%;
- D+ 67 - 69%;
- D 63 - 66%;
- D- 60 - 62%;
- F 0 - 59%;

UWM AND SOIS ACADEMIC POLICIES

The following links contain university policies affecting all SOIS students. Many of the links below may be accessed through a PDF-document maintained by the Secretary of the University: http://www.uwm.edu/Dept/SecU/SyllabusLinks.pdf. Undergraduates may also find the ***Panther Planner and Undergraduate Student Handbook*** useful (http://uwm.edu/studenthandbook/student-handbook/).

Students With Disabilities
If you will need accommodations in order to meet any of the requirements of a course, please contact the instructor as soon as possible. Students with disabilities are responsible to communicate directly with the instructor to ensure special accommodation in a timely manner. There is comprehensive coverage of issues related to disabilities at the Student Accessibility Center (http://www4.uwm.edu/sac/), important components of which are expressed here: http://www.uwm.edu/Dept/DSAD/SAC/SACltr.pdf.

Religious Observances
Students' sincerely held religious beliefs must be reasonably accommodated with respect to all examinations and other academic requirements, according to the following policy: http://www4.uwm.edu/secu/docs/other/S1.5.htm. Please notify your instructor within the first three weeks of the Fall or Spring Term (first week of shorter-term or Summer courses) of any specific days or dates on which you request relief from an examination or academic requirement for religious observances.

Students Called to Active Military Duty
UWM has several policies that accommodate students who must temporarily lay aside their educational pursuits when called to active duty in the military (see http://www4.uwm.edu/academics/military.cfm), including provisions for refunds, readmission, grading, and other situations.

Incompletes
A notation of "incomplete" may be given in lieu of a final grade to a student who has carried a subject successfully until the end of a semester but who, because of illness or other unusual and substantial cause beyond the student's control, has been unable to take or complete the final examination or some limited amount of other term work. An incomplete is not given unless the student proves to the instructor that s/he was prevented from completing course requirements for just cause as indicated above (http://www4.uwm.edu/secu/docs/other/S31.pdf).

Discriminatory Conduct (such as sexual harassment)
UWM and SOIS are committed to building and maintaining a campus environment that recognizes the inherent worth and dignity of every person, fosters tolerance, sensitivity, understanding, and mutual respect, and encourages the members of its community to strive to reach their full potential. The UWM policy statement (http://www4.uwm.edu/secu/docs/other/S47.pdf) summarizes and defines situations that constitute discriminatory conduct. If you have questions, please contact an appropriate SOIS administrator.

Academic Misconduct
Cheating on exams and plagiarism are violations of the academic honor code and carry severe sanctions, ranging from a failing grade for a course or assignment to expulsion from the University. See the following document (http://uwm.edu/academicaffairs/facultystaff/policies/academic-misconduct/) or contact the SOIS Investigating Officer (currently the Associate Dean) for more information.

Complaints
Students may direct complaints to the SOIS Dean or Associate Dean. If the complaint allegedly violates a specific university policy, it may be directed to the appropriate university office responsible for enforcing the policy.

Grade Appeal Procedures
A student may appeal a grade on the grounds that it is based on a capricious or arbitrary decision of the course instructor. Such an appeal shall follow SOIS appeal procedures for undergraduates as seen here: (http://www4.uwm.edu/sois/programs/graduate/mlis/policies/appeals.cfm) In the case of a graduate student, the Graduate School, (http://www4.uwm.edu/sois/programs/undergraduate/ug_appeals.cfm).

Last Revised
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