IS 421 Systems Analysis
Spring 2017

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Office; Phone:	CDM 738; 312-362-5841
Office Hours (Room):	Tuesdays: 1:00pm – 2:30pm (CDM 738); please take an appointment 24 hours in advance
Class Day & Time:	Tuesdays: 5:45pm– 9:00pm
Section Numbers:	901 (on-campus section) & 910 (online section)
Class Room:	Class number for the regular classes: LEWIS 1513 (Loop Campus)

Course Description

- The focus of this course is on both traditional and object-oriented systems analysis, with an emphasis upon developing competency in a wide range of modeling techniques. Specific topics include: overview of the software development environment and project management; project selection, initiation, and planning; determining requirements; process modeling, including DFDs and use cases; logic modeling, including decision tables, sequence diagrams, and activity diagrams; introduction to Entity-Relationship Diagrams.

- Prerequisite: None

Learning Outcomes

- Students will be able to explain software development life cycle and its components.
- Students will be able to explain project management in support of system analysis projects.
- Students will be able to develop process models, including data flow diagrams (DFDs) and use cases.
- Students will be able to explain logic modeling, including decision tables, sequence diagrams, and activity diagrams, and develop Entity-Relationship Diagrams (ERDs).

Required Textbook

- Valacich, J., George, J. F., Hoffer, J. A., (2015). *Essentials of Systems Analysis and Design*, 6th Edition, ISBN: 978-0133546231, Prentice Hall/Pearson.

Grading

- 40% Assignments (individual; 10% each assignment)

- 25% Closed Book Exam (individual; there will be no make-up exam.)

- 27% Group Project: Proposal (2%), Presentation (10%) and Report (15%) (team)

- 8% Class Participation

Grading Scale: 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: 60-66; F: 0-59.

Class Participation

On-campus students are expected to attend each class and to remain for the duration. Students are accountable for material covered and assignments/announcements made in any class sessions that they miss. Students are expected to be active learners, coming to class prepared to participate in discussion of the topics under consideration, asking good questions and making valuable observations. Three absences for any reason, whether excused or not, may constitute failure for the course.

Online students' participation will be assessed based on their attention to the assignments and their contributions to the group projects.

Team Formation for Team Activities

Students should form teams of up to 4 students for the team activities (see Assignments and Exams Information section). Each team should elect a contact person, who is responsible for the communications with me on behalf of the group. The contact person should submit the members' full names along with their project proposal in a word file to the pertinent Dropbox on D2L by the deadline indicated in the course schedule, at the end of this document.

Assignments & Exams Information

- **Assignments (Individual Activity; Turnitin Assignments):**

  This course includes four case assignments related to Petrie Electronics. Petrie Electronics is a case study explained at the end of chapters in the textbook. For assignments, students need to answer the questions for this case study at the end of chapters 4 to 7 and separately submit them to the pertinent Dropbox on D2L.

  These are Turnitin assignments to check for plagiarism. Assignments with higher than 20% similarity will not be graded (will receive zero credit).

- **Closed Book Exam (Individual Activity):**

  There is a closed book exam in this course, as explained in the course schedule at the end of this course syllabus document. The exam will be administered online, via D2L, for on-campus students (please note the location of the exam in the course schedule at the end of this document). Exams should be proctored for online students via COL.

- **Group Project on Systems Analysis (Group Activity; Turnitin Submissions):**

  Students should find and submit a topic for their group project that meets the following criteria:

  1. The project should address a real-life situation and be meaningful. I suggest that you search the Internet for B2C electronic commerce (online) systems that you can analyze by observing them online. For example, the following are good sources:

     (a) Online ticket purchase system (airline, train, cruise, concert, or other).

     (b) Online shopping systems (e.g., Amazon.com, Walmart.com, eBay.com, AliBaba.com)

     (c) Online banks and financial institutions systems

     (d) Online insurance purchase system (life, medical, homeowner, and others)

     (e) Rentals system (car, video, audio, and others)

     (f) Sharing economy online/mobile systems (e.g., Uber, Lyft, Airbnb).

     (g) You can also use traditional (brick-and-mortar) companies if you can get the required permissions from the appropriate people (it is students' responsibility to ensure all permissions are properly received before starting the project). You can work on their offline systems if you have the access and appropriate permissions.

     o *Note: In each category, you can also select more than one company and compare their processes and systems using systems analysis concepts and models you have learned in this course.*

  2. Submit a proposal in a word file for your selected system by the deadline (see course schedule). The proposal should not be more than 2 pages and should include: (1) group information, (2) description of the system selected for the project, (3) areas of improvements you see in the system, (4) time table of doing project. I will review the proposals and will give comments to consider in doing the project.

  3. For the system you have chosen, identify the major functions that a visitor/customer can perform on the system by navigating through it. (e.g., navigating through the online system you have selected for your project and familiarize yourself with all aspects of the system needed for your analysis). You may have to

register at the site or the system (or get special permissions, if it is not a publicly-available system) to get access to the more important functions of the system.

4. Document each function. Figure out the processes used in each function, the inputs used, and the outputs generated. For example, the contents of web pages that you see will give you information on these. However, web pages alone will be inadequate. You have to use your knowledge about the industry/company/function to identify other data used by the system. For this, you need to do some research to gain the knowledge needed. This is an important part of any system analysis project.

5. Identify at least two problems or limitations (areas of improvements) related to the system. They could be new functions that could be useful to a potential customer or improvements over existing functions. The problems should be related to system analysis and NOT be related to aesthetics or speed of the website.

6. Develop the data flow diagrams and entity relations diagrams (and any other diagrams you see necessary) for the system using the concepts learned in the course.

7. Analyze the models and diagrams and propose improvements to the system, using the models and diagrams (e.g., you can have two sets of diagrams and models. One for As-Is situation, and one for the improved situation that you are proposing).

8. Prepare a <u>10-15 min presentation</u> for presenting your project to the class (no more than 10 slides). Submit your PowerPoint slides for your presentation to D2L (see course schedule for the deadline).

   o *Note: Slides are not meant to be read but viewed. Don't read out of the slides or your script; talk to the audience and explain the topics the way you have understood them.*

   o *Online students will need to record the video of their group presentation. The video file in <u>.mp4 format</u> should then be submitted to the D2L Dropbox for "Group Project Presentation" by the deadline (see course schedule). Groups need to ensure that each of the group members present part of the work and one member records the video of the session. For this, the best and easiest solution is Zoom (https://zoom.us). This is an online video conference application that allows you to easily setup an online meeting with your group members, share screens, present your work, and record the whole session. Only one member needs to record the session. Zoom will save a .mp4 file locally on the computer of the person who has recorded the session. That .mp4 file needs to be submitted to D2L Dropbox for presentation.*

      ▪ *Zoom is a free and popular application for this purpose. If you have problems or questions regarding how to use it, you can refer to its FAQ page: https://support.zoom.us/hc/en-us/articles/206175806-Top-Questions.*

9. Prepare <u>a report for your project in a word document</u> (single-spaced, not less than 4 pages, with 11-point Times New Roman font, 1 inch margin all around). Submit your report to D2L (see course schedule for the deadline).

   o *Reports will be checked for originality using Turnitin. Reports with similarity rate of more than 15% will not be accepted.*

   o *Make sure to include models and diagrams as appropriate in your report and clearly explain the system you analyzed, the areas of improvements you identified, and the changes you are suggesting. You must have proper data and entity diagrams in support of your system and suggested improvements.*

Submission Timeline and Deadlines (Important Note)

- All submissions in this course must be in an electronic format and should be submitted to the pertinent Dropbox on D2L. Also, always keep a copy of your assignments for yourself in case they are not submitted correctly. **No hardcopy and/or emailed submission is accepted**.

- In order to maintain a good performance in this course, it is crucial to submit the deliverables on time. Deliverables are due on a specified date and time, as stated in the course schedule, at the end of this document, unless an extension/exception is announced.

- Late assignments will be subject to 10% penalty for each day of late submission (i.e., from one second to 24 hours late). Assignments that are more than <u>THREE</u> days late will NOT receive any credits.

  o This policy is strictly enforced, unless I am informed of a documented emergency at least 24 hours before the deadline (i.e., all health problems should be supported by a proper doctor note).

  o The only exception is Group Project Presentation and Report, where NO late submission will be accepted.

  o It is students' responsibility to know when the assignments are due (see the course schedule, at the end of this document).

  o The assignment Dropbox on D2L will automatically close <u>three (3) days</u> after the submission deadline. Once a Dropbox is closed, no submission will be accepted.

Academic integrity and plagiarism

- There will be **<u>ZERO tolerance</u>** for any type of plagiarism in this course.
- The use of others' publication, software and/or web content (text, graphics, codes) is regarded as plagiarism without giving credit.
- When you directly quote someone's work, you must put it in quotation marks followed by its reference.
- The use of materials prepared for purposes other than this course needs the instructor's prior permission.
- Please familiarize yourself with the university's academic integrity policy: http://academicintegrity.depaul.edu.

Changes to Syllabus

This syllabus is subject to change as necessary during the quarter. If a change occurs, it will be thoroughly addressed during class and posted under Announcements in D2L.

Online Course Evaluations

- Evaluations are a way for students to provide valuable feedback regarding their instructor and the course. Detailed feedback will enable the instructor to continuously tailor teaching methods and course content to meet the learning goals of the course and the academic needs of the students.
- The evaluations are anonymous; the instructor and administration do not track who entered what responses. A program is used to check if the student completed the evaluations, but the evaluation is completely separate from the student's identity. Since 100% participation is our goal, students are sent periodic reminders over three weeks. Students do not receive reminders once they complete the evaluation.
- Students will complete the course evaluation online in Campus Connect.

Academic Policies

- All students are required to manage their class schedules each term in accordance with the deadlines for enrolling and withdrawing as indicated in the University Academic Calendar.
- Information on enrollment, withdrawal, grading and incompletes can be found at: http://www.cdm.depaul.edu/Current%20Students/Pages/PoliciesandProcedures.aspx

Students with Disabilities

Students who feel they may need an accommodation based on the impact of a disability should contact the instructor privately to discuss their specific needs. All discussions will remain confidential. To ensure that you receive the most appropriate accommodation based on your needs, contact the instructor as early as possible in the quarter (preferably within the first week of class), and make sure that you have contacted the Center for Students with Disabilities (CSD) at: csd@depaul.edu.

Lewis Center 1420, 25 East Jackson Blvd.
Phone number: (312)362-8002
Fax: (312)362-6544
TTY: (773)325.7296

Tentative Course Schedule (subject to change)

Week & Date		Class Focus & Content	Deliverables Due at **11:59 PM (CT)** *(See the Due Dates below)*	
1	28-Mar	1. Introduction to the Course 2. System Development Environment – Chapter 1		
2	4-Apr	Sources of Software – Chapter 2	Submit Your Team Members Information (Word File)	Due: 10-Apr
3	11-Apr	Managing the Information Systems Project – Chapter 3		
4	18-Apr	Systems Planning and Design – Chapter 4	Assignment 1: Petrie Electronics Case for Chapter 4 (answer all questions in a word file, separated based on questions)	Due: 24-Apr
5	25-Apr	System Requirements – Chapter 5	1. Assignment 2: Petrie Electronics Case for Chapter 5 (answer all questions in a word file, separated based on questions) 2. Group Project Proposal	Due: 1-May
6	2-May	Process Modeling: Chapter 6	Assignment 3: Petrie Electronics Case for Chapter 6 (answer all questions in a word file, separated based on questions)	Due: 8-May
7	9-May	Conceptual Data Modeling – Chapter 7	Assignment 4: Petrie Electronics Case for Chapter 7 (answer all questions in a word file, separated based on questions)	Due: 15-May
8	16-May	1. Appendix A (pages 369-373) 2. Agile Methodologies – Appendix B 3. Recap of the Quarter for the Exam		
9	23-May	**Meet at CDM 658 (computer lab)** Closed Book Exam from Chapters 1 to 7 and Appendices A (p. 369-373) and B.	Group Project Presentation	Due: 29-May
10	30-May	Students' Presentation of Group Projects		
11	6-June	Group Project Report (No Class)	Group Project Report	Due: 6-June