

IS 421 Systems Analysis Fall 2017

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| Instructor; Email: | Hamed Qahri-Saremi, Ph.D., SAP Certified Associate; hqahrisa@cdm.depaul.edu |
| Office; Phone: | CDM 738; 312-362-5841 |
| Office Hours (Room): | Mondays: 1:00pm – 2:30pm (CDM 738) |
| Class Day & Time: | Mondays: 5:45pm– 9:00pm |
| Section Numbers: | 701 (on-campus section) & 710 (online section) |
| Class Room: | Class number for the regular classes: LEWIS 1110 (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)
- 10% Lab Assignment (Group Assignment)
- 15% 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 (this is for on-campus students only. For online students, this score will be added to the Assignments, increasing the value of each individual assignment to 12%).

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. The overall grade for participation drops one-third after any unexcused absence. Three absences for any reason, whether excused or not, may constitute failure for the course.

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.

Class participation credit is for on-campus students only. For online students, this score will be added to the Quizzes, increasing the value of each individual assignment to 12%.

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 folder 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 folder on D2L.

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

- **Lab Assignment (Group Activity):**

There is one hands-on lab assignment using a case study that will be provided by the professor. The assignment will be focusing on developing process and conceptual models for an information system within a practical context. Students will be working in their teams on the assignment in the lab and should submit the results to D2L. Online students will work on the assignment virtually via teams.

- **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.

- *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 (for at least two levels below context diagram) 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 20-min presentation for presenting your project to the class. Submit your PowerPoint slides for your presentation to D2L (see course schedule for the deadline).
 - *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.*
 - *Online students will need to record the video of their group presentation. The video file in .mp4 format should then be submitted to the D2L folder 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 folder 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 a report for your project in a word document (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).
 - *Reports will be checked for originality using Turnitin. Reports with similarity rate of more than 15% will not be accepted.*
 - *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 folder 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 THREE days late will NOT receive any credits.
 - 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).
 - The only exception is Group Project Presentation and Report, where NO late submission will be accepted.
 - It is students' responsibility to know when the assignments are due (see the course schedule, at the end of this document).
 - The assignment folder on D2L will automatically close three (3) days after the submission deadline. Once a folder is closed, no submission will be accepted.

Academic integrity and plagiarism

- There will be **ZERO tolerance** 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 major change occurs, it will be addressed during class and posted via 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>

Civil Discourse

DePaul University is a community that thrives on open discourse that challenges students, both intellectually and personally, to be [Socially Responsible Leaders](#). It is the expectation that all dialogue in this course is civil and respectful of the dignity of each student. Any instances of disrespect or hostility can jeopardize a student's ability to be successful in the course. The professor will partner with the Dean of Students Office to assist in managing such issues.

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 <i>Due at 11:59 PM (CT)</i> <i>(See the Due Dates below)</i> | |
|------------------------|--------|--|---|-------------|
| 1 | 11 Sep | 1. Introduction to the Course 2. System Development Environment – Chapter 1 | | |
| 2 | 18 Sep | 1. Sources of Software – Chapter 2 2. Systems Planning and Design – Chapter 4 | Submit Your Team Members Information (Word File) | Due: 24 Sep |
| 3 | 25 Sep | 1. Systems Planning and Design – Chapter 4 2. System Requirements – Chapter 5 | Assignment 1: Petrie Electronics Case for Chapter 4 (answer all questions in a word file) | Due: 1 Oct |
| 4 | 2 Oct | Process Modeling: Chapter 6 | 1. Assignment 2: Petrie Electronics Case for Chapter 5 (answer all questions in a word file) 2. Group Project Proposal | Due: 8 Oct |
| 5 | 9 Oct | Conceptual Data Modeling – Chapter 7 | Assignment 3: Petrie Electronics Case for Chapter 6 (answer all questions in a word file) | Due: 15 Oct |
| 6 | 16 Oct | <u>Meet at Computer Lab (to be determined)</u> Hands-on Lab Assignment | Hands-on Lab Assignment (answer all questions in a word file) | Due: 22 Oct |
| 7 | 23 Oct | Managing the Information Systems Project – Chapter 3 | Assignment 4: Petrie Electronics Case for Chapter 7 (answer all questions in a word file) | Due: 29 Oct |
| 8 | 30 Oct | 1. Appendix A (pages 369-373) 2. Agile Methodologies – Appendix B 3. Review for the Exam | | |
| 9 | 6 Nov | <u>Meet at CDM 634 (computer lab)</u> Closed Book Exam from Chapters 1 to 7 and Appendices A (p. 369-373) and B. | Group Project Presentation | Due: 12 Nov |
| 10 | 13 Nov | Students' Presentation of Group Projects | | |
| 11 | 20 Nov | Group Project Report (No Class) | Group Project Report | Due: 20 Nov |