

IS 421 Winter 2022

Systems Analysis

Section 801/810 (on-line) meets
LEWIS 1007 W 17:45 – 21:00

Dr. Steve Rubinow

Email: srubinow@depaul.edu (see Contact Information below)

Office hours: W immediately before class or by appointment

Office location: CDM 303



Summary of the Course

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.

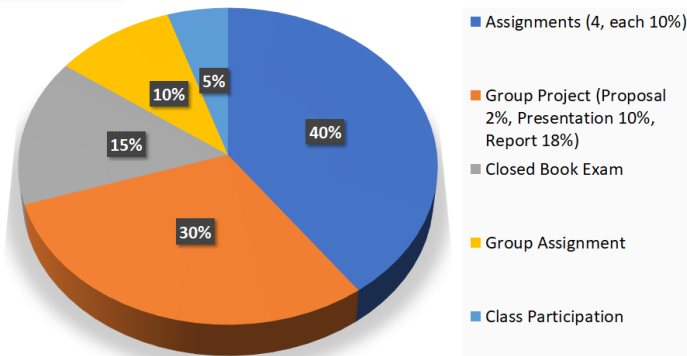
Prerequisites

No previous knowledge of computers is assumed, or necessary. Course information can be found on D2L:

<https://d2l.depaul.edu/>



Grading / Evaluation



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

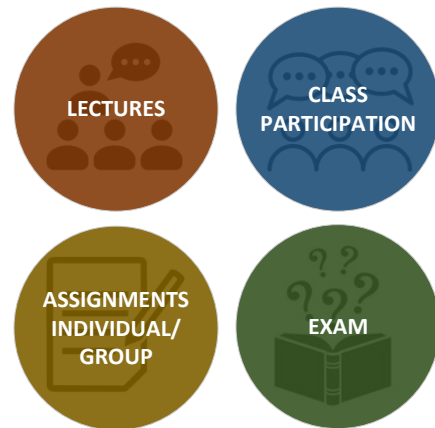


Contact Information

- Email is the primary mode of off-line communication with the class
- Please make certain that your email address is correctly listed on Campus Connect
- When emailing, please write the subject of your email as follows: IS 421 – *purpose of email*



Organization of the Course



Learning Outcomes

Students will be able to:

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



Required Textbooks

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



Course Schedule: Topics

WEEK 1: JAN 5 Introduction to the Course Ch 1: System Development Environment	WEEK 2: JAN 12 Ch 2: Sources of Software	WEEK 3: JAN 19 Ch 4: Systems Planning and Design Ch 5: System Requirements	WEEK 4: JAN 26 Ch 5: System Requirements Ap B: Agile Methodology Ch 6 (Pt A): Process Modeling	WEEK 5: FEB 2 Ch 6 (Part B): Process Modeling Ap A (pages 369-373)
WEEK 6: FEB 9 Ch 7: Conceptual Data Modeling	WEEK 7: FEB 16 Hands-on Lab Assignment (students will work with their groups virtually)	WEEK 8: FEB 23 Ch 3: Managing the Information Systems Project	WEEK 9: MAR 2 Closed Book Online Exam from Chapters 1 to 7 and Appendices A (p. 369-373) and B.	WEEK 10: MAR 9 Display and Discussion of Students' Presentation of Group Projects (submit the links to your presentation videos)



Course Schedule: Deliverables

WEEK 1:	WEEK 2: DUE JAN 16 Submit Your Group Members Information (PDF File)	WEEK 3 DUE JAN 23 Assignment 1: Petrie Electronics Case for Ch 4 (PDF file)	WEEK 4: DUE JAN 30 1. Group Project Proposal 2. Assignment 2: Petrie Electronics Case for Ch 5 (PDF file)	WEEK 5: DUE FEB 6 Assignment 3: Petrie Electronics Case for Ch 6 (PDF file)
WEEK 6: DUE FEB 13 Assignment 4: Petrie Electronics Case for Ch 7 (PDF file)	WEEK 7: DUE FEB 27 Hands-on Lab Assignment (PDF file)	WEEK 8:	WEEK 9: DUE MAR 6 Group Project Video Presentation Link	WEEK 10:
WEEK 11: DUE MAR 13 Group Project Report				



Late Work Policy

- In order to maintain 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, unless an extension/exception is announced.
- Late assignments will be subject to a 10% penalty for each day of late submission (i.e., from one second to 24 hours late). Assignments that are more than three (3) days late will not receive any credit; no work will be accepted after the last day our class meets.
 - This policy is strictly enforced, unless informed of a documented emergency at least 24 hours before the deadline (i.e., all health problems should be supported by a proper doctor's note).
 - The only exception is the Hands-On Lab Assignments, where NO late submission will be accepted.
 - It is students' responsibility to know when the assignments are due (see the course schedule)
 - The assignment submission folder on D2L will automatically close three (3) days after the submission deadline. Once a folder is closed, no submission will be accepted.

All work must be submitted either in class, or on D2L, as specified.

Only exception to the rule: If you are having trouble submitting on D2L, you may email your work. This will indicate that you completed the work on time.

Grading: Detailed instructions for all assignments will be posted on D2L.

Value	Assignment	Comments
40%	Assignments (4 assignments, 10% each)	<p>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 submit them to the pertinent folder on D2L.</p> <p>Please study "Individual Assignments Instructions" file on D2L (within Course Assignments content area) for specific details about each assignment. Each assignment is worth 10% credit (total of 40% credit for 4 assignments). All assignments are <i>Turnitin</i> submissions, which means that they are automatically checked for plagiarism.</p>
30%	Group Project (Group Assignment): <ul style="list-style-type: none"> • Group Project Proposal (2%) • Group Project Presentation (10%) • Group Project Report (18%) 	<p>GROUPS: Students will be assigned groups for the group activities. Students should use the online discussion forum created for this purpose on D2L to communicate with other students in their group. Each group should elect a contact person, who is responsible for the communications with me on behalf of the group. The contact person should submit the group members' full names and DePaul emails along with their project proposal in a Microsoft Word file to the pertinent folder on D2L by the deadline indicated in the course schedule (at the end of this document). Students without a group after the deadline will be randomly assigned to new or existing groups.</p> <p>Peer Evaluation Survey — To ensure all group members are assessed based on their full extent of participations in group activities, a peer evaluation survey will be sent to all group members at the end of the quarter to evaluate the contributions of every member of group. Completing the survey is mandatory for all students. Group members who, according to a majority of group members, have not fully contributed to the group activities will be penalized accordingly. Therefore, make sure you seek feedback from your group members during the quarter and ensure you meet the expectation of group.</p> <p>GROUP PROJECT ON SYSTEMS ANALYSIS (GROUP ACTIVITY): Students should find and submit a topic for their group project that meets the following criteria:</p> <ol style="list-style-type: none"> 1. The project should address real-world systems (NOT hypothetical systems) and be meaningful. I suggest that you search the Internet for business to customer (B2C) electronic/mobile commerce (online) systems that you can analyze by observing them online. 2. Each group should choose one of two options for the project: <ol style="list-style-type: none"> (a) selecting a current system (AS-IS system) and analyze it using system analysis techniques and propose improvements to the system (developing a TO-BE version of the system) using system analysis techniques; OR (b) comparing two similar systems (e.g., Uber and Lyft, or Walmart.com and Amazon.com) using systems analysis techniques and show their similarities and

Value	Assignment	Comments
		<p>differences. Note that either way, you should essentially conduct systems analysis for two systems (either AS-IS and TO-BE version of the same system, or System 1 and System 2 that belong to the same category, such as Uber and Lyft).</p> <p>3. For example, the following are examples of types of systems that you can choose for your project:</p> <ul style="list-style-type: none"> (a) Online ticket purchase systems (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 systems (life, medical, homeowner, and others) (e) Rentals systems (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. <p>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.</p> <p>4. Submit a proposal in a PDF file for your selected system by the deadline (see course schedule). The proposal should not be more than 2 pages and should include:</p> <ul style="list-style-type: none"> (a) group information (b) description of the system(s) selected for the project and why (c) (suggested areas of improvements you see in the system (for option a) OR the differences between the two systems that you want to discuss in your project (for option b). I will review the proposals and will give comments to consider in doing the project. <p>5. For the system(s) 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 systems you have selected for your project and familiarize yourself with all aspects of the systems needed for your analysis). You may have to register at the sites or the systems (or get special permissions if it is not a publicly available system) to get access to the more important functions of the system.</p> <p>6. 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</p>

Value	Assignment	Comments
		<p>inadequate. You have to use your knowledge about the users, industry, company, functions to identify other data used by the systems. For this, you need to do some research to gain the knowledge needed. This is an important part of any system analysis project. Identify problems or limitations (e.g., areas of improvements) related to the systems. 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.</p> <p>7. Develop the data flow diagrams (for at least two levels below context diagram) and entity relationship diagrams (and any other diagrams you see necessary, such as Use-Case diagrams) for the system using the concepts learned in the course. Analyze the models and diagrams and propose improvements to the systems, using the models and diagrams.</p> <p>8. Prepare a presentation video of your topic, upload it to a cloud service (e.g., YouTube, Vimeo.com), and submit its link to the discussion forum and your PowerPoint slides to the submission folder on D2L (more details about the time of presentation will be announced via D2L; see course schedule for the deadline).</p> <p>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. Make sure to include references properly. Use quotations to cite someone's verbatim words.</p> <p>Online students will need to record their group presentation and submit the link to D2L 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 solutions are Panopto (https://depaul.hosted.panopto.com), which is accessible via D2L and Zoom (https://depaul.zoom.us).</p> <p>Ensure you provide clear details about the systems being analyzed in the project, along with pertinent DFDs and ERDs. More details about the time-limit for presentations will be posted on D2L at least a week prior to presentations.</p> <p>9. Prepare a final report for your project in a word document (double-space, approximately 20 pages (including everything except the diagrams and Figures), with 11-point Times New Roman font, 1-inch margin all around). Submit your report to D2L (see course schedule for the deadline). Make sure to include all 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.</p>

Value	Assignment	Comments
15%	Closed Book Exam (there will be no make-up exam)	There is one closed book exam in this course (chapters 1, 2, 3, 4, 5, 6 and 7) as explained in the course schedule. The exam will be administered online, via D2L. Note the date and time for the exams in the course schedule.
10%	e-Lab Assignment (One Group Assignment)	There is one hands-on lab assignment using a systems analysis case study that will be provided by the instructor on D2L. 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 groups on the assignment virtually and should submit the results to D2L.
5%	Class Participation	<p>The class participation credit will be calculated based on the participation in group assignment and project and attendance in class sessions (depending on the section that the student is registered in). Students who are registered in the 801 section of the course are required to attend all classroom sessions (and Zoom sessions, where applicable). However, attendance in live Zoom sessions for students who are registered in the 810 section of the course is optional (they must watch the recorded video of the session if they decide not to attend the live session). All students are accountable for material covered and assignments / announcements made in any class sessions that they miss.</p> <p>AND</p> <p>Virtual in-class work and professionalism:</p> <ul style="list-style-type: none"> • Do the reading/viewing before class. Please be prepared to engage in meaningful and respectful class discussion. The entire class will benefit greatly if all voices are heard. • Handle in-class assignments professionally and respectfully. • Do not use electronic devices in-class (see policy below). • Arrive on time and stay in the classroom until the class is over. • Group work and group evaluations. <p>Students are expected to be active learners. Students are expected to attend each class and to remain for the duration. The overall grade for participation drops one-third after any absence. Three absences for any reason, whether excused or not, may constitute failure for the course.</p>

EXAMS AND PROCTORING

For students registered in the *in-class* section, you will take the exam during the scheduled class time as specified in the syllabus.

For students registered in the *on-line* section, you can schedule a time to take the exam via one of the following options:

- CDM offers on-campus, in-person, exam proctoring. This service is available Monday, January 24, 2022, until Sunday, March 20, 2022. The exam times are as follows (although the schedule may vary):
 - ☐ Monday - Thursday: 10am, 2pm and 6pm
 - ☐ Friday - Sunday: 10am and 2pm
- Examity, the on-line proctoring service.

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.

ELECTRONICS/BEHAVIOR POLICY IN THE CLASSROOM

- Out of respect for others in the class, please remember to turn off all electronic devices (except computer for class) during class. Failing to follow this policy results in penalties toward class participation credit.
- The class is discussion based. Thus, students are expected to prepare for class, arrive on time and remain in the classroom until the class is over, attend every class to progress satisfactorily towards course objectives, and behave in a respectful manner. 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.
- Failure to comply will affect your class participation grade.

RELIGIOUS OBSERVATIONS

Accommodations will be made to allow students to fully express their faith. Please provide notice in advance by email if you will be absent, or need extensions on assignments, due to religious observations.

SCHOOL ACTIVITIES

Every effort to accommodate student participation in school activities, such as athletic competitions, will be made. Please provide notice in advance by email if you will be absent, or need extensions on assignments, due to school activities.

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 collaborate with the Dean of Students Office to assist in managing such issues.

RESOURCES FOR STUDENTS WITH DISABILITIES

Students who feel they may need an accommodation based on the impact of a disability should contact the instructor privately, during office hours, 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: Student Center, LPC, Suite #370 Phone number: (773)325.1677; Fax: (773)325.3720; TTY: (773)325.7296.

ACADEMIC POLICIES/ABSENCES

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: <https://www.cdm.depaul.edu/Current%20Students/Pages/Enrollment-Policies.aspx>

In the case of illness, or other excused absences, a student may contact the Dean of Students to request a formally approved absence. Upon receipt of documentation, the dean's office will notify all instructors of the student that an approved absence has occurred. The notification will maintain student privacy by not including the reasons for the absence. Contact information may be found at: <http://studentaffairs.depaul.edu/dos/contactus.html>

UNIVERSITY POLICIES

Incomplete Grades

An incomplete grade is a special, temporary grade that may be assigned by an instructor when unforeseeable circumstances prevent a student from completing course requirements by the end of the term and when otherwise the student had a record of satisfactory progress in the course. All incomplete requests must be approved by the instructor of the course and a CDM Associate Dean. Only exceptions cases will receive such approval. Information about the Incomplete Grades policy can be found at <http://www.cdm.depaul.edu/Current%20Students/Pages/Grading-Policies.aspx>

Academic Integrity Policy

This course will be subject to the faculty council rules on the [Academic Integrity Policy web site](#).

Plagiarism

The university and school policy on plagiarism can be summarized as follows: Students in this course, as well as all other courses in which independent research or writing play a vital part in the course requirements should be aware of the strong sanctions that can be imposed against someone guilty of plagiarism. If proven, a charge of plagiarism could result in an automatic F in the course and possible expulsion. The strongest of sanctions will be imposed on anyone who submits as his/her own work a report, examination paper, computer file, lab report, or other assignment which has been prepared by someone else. If you have any questions or doubts about what plagiarism entails or how to properly acknowledge source materials be sure to consult the instructor.

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. They are a requirement of the course and are key to providing you with the highest quality of teaching. 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 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 complete the evaluation online in Campus Connect.

Students with Disabilities

Students seeking disability-related accommodations are required to register with DePaul's Center for Students with Disabilities (CSD) enabling them to access accommodations and support services to assist with their success. There are two office locations:

- Loop Campus (312) 362-8002
- Lincoln Park Campus (773) 325-1677
- Email: csd@depaul.edu

Students who register with the Center for Students with Disabilities are also invited to contact Dr. Gregory Moorhead, Director of the Center, privately to discuss how he may assist in facilitating the accommodations to be used in a course. This is best done early in the term. The conversation will remain confidential to the extent possible. Please see <https://offices.depaul.edu/student-affairs/about/departments/Pages/csd.aspx> for Services and Contact Information.

RESPECT FOR DIVERSITY AND INCLUSION AT DePAUL UNIVERSITY AS ALIGNED WITH OUR VINCENTIAN VALUES

At DePaul, our mission calls us to explore “what must be done” in order to respect the inherent dignity and identity of each human person. We value diversity because it is part of our history, our traditions and our future. We see diversity as an asset and a strength that adds to the richness of classroom learning. In my course, I strive to include diverse authors, perspectives and teaching pedagogies. I also encourage open dialogue and spaces for students to express their unique identities and perspectives. I am open to having difficult conversations and I will strive to create an inclusive classroom that values all perspectives. If at any time, the classroom experience does not live up to this expectation, please feel free to contact me via email or during office hours.

PREFERRED NAME & GENDER PRONOUNS

Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender, gender variance, and nationalities. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the quarter so that I may make appropriate changes to my records. Please also note that students may choose to identify within the University community with a preferred first name that differs from their legal name and may also update their gender. The preferred first name will appear in University related systems and documents except where the use of the legal name is necessitated or required by University business or legal need. For more information and instructions on how to do so, please see the Student Preferred Name and Gender Policy at <http://policies.depaul.edu/policy/policy.aspx?pid=332>

COVID-19 HEALTH AND SAFETY PRECAUTIONS

Keeping our DePaul community safe is of utmost importance in the pandemic. Students, faculty and staff are expected to:

- (1) wear a mask as required at all times while indoors on campus;
- (2) refrain from eating and drinking in classrooms;
- (3) keep current with their COVID-19 vaccinations or exemptions;
- (4) stay home if sick;
- (5) participate in any required COVID-19 testing;
- (6) complete the online Health and Safety Guidelines for Returning to Campus training;
- (7) abide by the City of Chicago Emergency Travel Advisory.

By doing these things, we are Taking Care of DePaul, Together. The recommendations may change as local, state, and federal guidelines evolve. Students who do not abide by the mask requirement may be subject to the student conduct process and will be referred to the Dean of Students Office. Students who have a medical reason for not complying with any requirements should register with DePaul’s Center for Student with Disabilities (CSD).