Course Syllabus – IS 421
Systems Analysis

Autumn 2013

COURSE:	IS 421 – Systems Analysis
START AND END DATES:	September 16 – November 25, 2013 (Mondays, 5:45 – 9:00 PM)
LOCATION:	Lewis Center Room 1110
INSTRUCTOR:	James Nowotarski
	Email: jnowotarski@cdm.depaul.edu
	Phone: 708.214.9347
	Office hours: Immediately before and after class; CDM Room 701, 702, or 703

COURSE MATERIALS:

Text (REQUIRED)
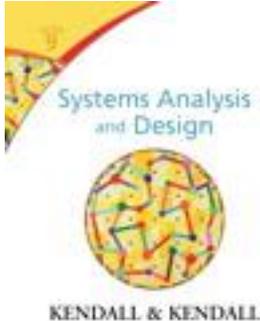
Kendall, K., & Kendall, J. (2014). *Systems analysis and design* (9th ed.). Upper Saddle River, NJ: Prentice Hall.
Online resources: http://www.pearsonhighered.com/kendall/

| Mode	ISBN-10	ISBN-13	URL
Print	0133023443	9780133023442	link
eText (CourseSmart)	0133023478	9780133023473	link
eText (NOOK Study)	0133024474	9780133024470	link
eBook (Kindle)	B00BG5VR3M (ASIN)		link

Note the IS 421 text is also used in course IS 422- System Design, Implementation, and Maintenance.

The prior 8th edition of the text was published in January 2010. The 9th edition has minor upgrades over the 8th edition, primarily to cover technology trends such as cloud computing, big data, mobile, and social software for business. Most of these updates are in chapters covered by IS 422. When I refer to the text, I will assume the 9th edition. It may take more effort, but you should be able to follow along in IS 421 with the 8th edition. See http://www.pearsonhighered.com/kendall/

Supplementary Readings
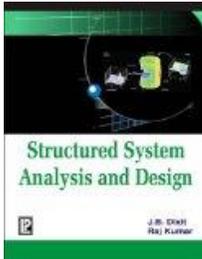
Dixit, J., & Kumar, R. (2007). *Structured systems analysis and design.* New Delhi: Laxmi Publications. Available in Books 24x7 in DePaul's online library e-book section. ISBN: **9788131802663**
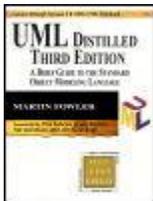
Fowler, M. (2004). *UML distilled: A brief guide to the standard object modeling language* (3rd ed.). Boston, MA: Addison-Wesley. Available in Safari Books Online in DePaul's online library e-book section. ISBN: **0321193687**

Project Management Institute. (2013). *A guide to the Project Management Body of Knowledge (PMBOK® Guide)* (5th ed.). Newtown Square, PA: Author. Available in Books 24x7 in DePaul's online library e-book section. ISBN: **9781935589679**

Other supplementary readings will be provided in the course site.

Software

To produce the diagrams that are created in systems analysis (for example, data flow diagrams and entity relationship diagrams), I recommend you use a drawing tool that you know. Here are some commonly used Microsoft tools that are easily available to you:

- Microsoft Visio
- Microsoft Access
- Microsoft Word, PowerPoint, or Excel

Note that Microsoft Visio and Access are freely available to you at the following sources:

Full versions:

- CDM lab machines
- Downloadable via CDM's Microsoft Developer Network Academic Alliance (MSDNAA) subscription (also known as Microsoft DreamSpark)

60-day trial version downloads:

- Microsoft Visio Professional 2013
- Microsoft Office Professional Plus 2013 (includes Access)

1-month trial of cloud-based software:

- Visio Pro for Office 365
- Office 365 Pro Plus (includes Access)

A popular diagramming tool for Apple platforms is OmniGraffle.

COURSE DESCRIPTION:

Course focus 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: None.

A combination of teaching methods will be used in this course, including lectures, class exercises, student presentations, case studies, lab work, and discussions.

COURSE OBJECTIVES:

Upon completion of this course, students will be able to:

1. Describe the systems development life cycle and specific life cycle models
2. Describe systems analysis and the role of the systems analyst
3. Explain how to identify functional and quality requirements
4. Analyze, model, and specify a system's process requirements
5. Analyze, model, and specify a system's data requirements

6. Describe how information systems projects are proposed and initiated
7. Compare and contrast structured and object oriented development
8. Discuss emerging trends and issues in systems analysis

COURSE SCHEDULE, TOPICS, AND ACTIVITIES:
Here is a summary of what will be due and by when. Note that this is subject to tweaking – I will give you plenty of notice when something changes:

Session	Date	Topics	Pre-Readings	Items Due (Sunday after session, 11:59 PM, unless noted otherwise)
1	16-Sep	Course overview Systems development Systems analysis	Kendall: Ch. 1	Post introduction to Course Online
2	23-Sep	Business rule specification	Kendall: Ch. 9	Homework 1
3	30-Sep	Overview of systems modeling Requirements gathering	Kendall: Ch. 2, 4, 5	Quiz 1 (covering sessions 1-3)
4	7-Oct	Data modeling	Kendall: Ch. 2, "Systems and the E-R Model" (pp. 25-30) Ch. 13, "Data Concepts" (pp.363-371)	Homework 2
5	14-Oct	Data modeling (cont.)	Kendall: Ch. 13, "Normalization" (pp.371-382) Optional: Gane & Sarson reading in COL	Quiz 2 (sessions 4-5)
6	21-Oct	Process modeling	Kendall: Ch. 7	
7	28-Oct	Process modeling (cont.)	Kendall: Ch. 8	Homework 3

Session	Date	Topics	Pre-Readings	Items Due (Sunday after session, 11:59 PM, unless noted otherwise)
8	4-Nov	Process modeling (cont.) Unified Modeling Language (UML)	Kendall: Ch. 10 (Use cases & activity diagrams) Fowler: Ch. 9, 11	Quiz 3 (sessions 6-8)
9	11-Nov	Project management Transition from analysis to design	Kendall: Ch. 3 PMI: Sec. 1.2, 2.4	Homework 4
10	18-Nov	Wrap up and review for final		
11	25-Nov			**Final (cumulative; take home; due 11:59 pm, November 25)**

GRADING CRITERIA:
Grades will be earned based on the following criteria and weight:

Item	% Value
Homework and quizzes	60
Final exam	30
Participation (in-class or discussion forums)	10
Total	**100**

Homework and quizzes - Specific instructions and grading criteria will be provided in class and posted online. Quizzes will focus on familiarity with the essential concepts from readings and lectures. Homework will focus on applying the concepts to solve problems. Each homework and quiz will count an equal amount toward your final course grade.

Late submissions – No credit can be earned when an item has been graded and returned to other students, when the solution has already been discussed in class, when an online discussion forum's time window has ended, or when an item has been turned in after the last class session. Other late submissions will be penalized unless prior arrangements have been made with the instructor. In general, you will lose 25% of the possible credit if less than 1 week late, 50% of the credit if 1-2 weeks late, and 100% of the credit if more than 2 weeks late. For the distance learning students, you must post

to discussion forums within the timeframes specified; if you miss the time window, there will be nobody to participate with and it will be impossible for you to earn credit.

GRADING SCALE:
Course grades will be reported on the following scale:

Grade	Cutoff %
A	93
A-	90
B+	87
B	83
B-	80
C+	77
C	73
C-	70
D	60
F	Less than 60

Grades will be posted online.

POSTING AND PARTICIPATION POLICIES:

The quality of the weekly in-class and online class discussions plays a particularly large role in helping you understand and internalize your knowledge. To ensure an excellent ongoing conversation—and to ensure that I clearly define our expectations —I have provided below answers to some frequently asked questions.

o   *How will in-class participation be graded?*

In-class discussions are vital to maximize the learning for everyone. You are expected to have read the materials and completed the assigned work prior to class. We need everyone to come prepared to contribute observations, real-life examples, and questions. At times you will work individually; other times you will work in pairs or small groups. I will subjectively grade your in-class work and participation using the following scale:

A   Consistently asks good questions, makes valuable observations, and answers questions effectively
B   Frequent participant, but not all questions, answers, and observations are effective, or not consistently active
C   Participates infrequently, or questions/answers do not reflect adequate preparation, or late to class
D   Very rare participation, or questions/answers reflect little or no preparation, or very late to class
F   Displays no sign of life, or absent for entire class

o   *Is attendance mandatory for in-class students?*

Note that a portion of your grade is based on your class participation. Circumstances may arise that may preclude you from attending every session; however, you must

contact the instructor in advance and participate in that session's discussion forum.

o   *How will discussion forum postings be evaluated?*

Distance Learning students are required to post to weekly discussion forums. In-class students are also encouraged to post to these forums, but are required to do so only when they miss an in-class session. Posts will be evaluated using the criteria described below:

   o   **Thoroughness of Analysis:** Do the comments demonstrate deeper processing--or are they "on the surface"? Do your writings appear to be the restatement of another author's words, or are they an interpretation in your own words? Have you provided support for your analysis (e.g., reasons, examples, authoritative sources)?

   o   **Application of Knowledge and Experience:** Is the information connected to course content and concepts, and to your personal observations and/or experience? Is there evidence of this application?

   o   **Writing:** Have you proofread your post, making sure there are no errors in grammar, sentence structure, punctuation, spelling, format or style? Is your writing clear and your ideas well organized?

OTHER COURSE POLICIES AND PROCEDURES:

Please see the CDM Intranet for general information about school policies.

Communication
If you have questions or special circumstances – no matter how minor -- let me know right away. Don't wait!   This class moves quickly. Just like on a project, timely communication is vital to ensure things go smoothly.

Plagiarism
I want to remind everyone about plagiarism. The rules are very simple:

1) When you paraphrase someone else's ideas, cite your source
2) If someone else says it best, use a direct quote and cite your source
3) A "close paraphrase" - where you rearrange or replace a few words - counts as a direct quote

Unless indicated otherwise, your written materials are supposed to be your essays. It is highly recommended for you to support your essays with credible source material--It makes your writing more credible, and it demonstrates effort and commitment. But the source material should *support* your words, not *replace* them. A very rough rule of thumb is that no more than 10-20% of your essays should be direct quotes from a source.

For a refresher on how to cite, see http://condor.depaul.edu/writing/writers/citations.html. I use the Turnitin web-based service to help prevent and detect plagiarism. I have found that the service works quite well, and I check your papers with Turnitin before I grade them. If you plagiarize, you will not receive credit and may fail the course.

COL, D2L
Course Online (COL) will be the primary place for you to view/submit course content, including lecture recordings, homework, and grades.

Desire2Learn (D2L) will be used to administer quizzes.

Distance Learning Students
If you are enrolled in the distance learning section, read the pages at CDM's Online Learning microsite. The Frequently Asked Questions page is particularly useful.

Use of Mobile Technology in Class
I encourage use cases that contribute to the learning process (e.g., taking notes, viewing instructional materials, looking up reference information). I prohibit uses that are disruptive (e.g., phone calls, loud typing, frequent web surfing/texting/tweeting, watching Monday Night Football). On the other hand, I understand that you have busy lives and may need to be reachable. Use common sense and be courteous to others (e.g., mute your phones, leave the room if you have to take a call, etc.), otherwise I will ban usage and reduce your participation grade. Remember that active participation and face-to-face discussion are non-negotiable aspects in the in-class sections of this course.