COURSE SYLLABUS
Information Systems Analysis: Concepts and Practice, IST 654

Class Location and Time: Wednesday, 2:15 - 5:05 pm, Hinds Hall 011

Instructor: Professor Lu Xiao   Phone: 315-443-1707

Office: 213 Hinds Hall   Email: lxiao04@syr.edu

Office Hours: Fridays, 3:30 - 4:30 pm. or by appointment

Prerequisite / Co-requisite: None

Audience: The course is intended primarily for students in the Masters of Information Management program, though it can be of interest and value to students in other programs.

Description:
Concepts and methods of systems analysis through decomposition and modeling. Extensive practice with structured methodologies. Systems analysis and project management techniques. Introduction to automated tools and technologies. Group project to apply skills.

Additional Course Description:
IST 654 is an introductory course, covering the concepts and techniques of information systems analysis and design (SA&D), including analysis skills as well as managerial issues. The course covers techniques used by modern systems analysts and gives extensive practice with structured methodologies and object-oriented techniques.

Modern organizations large and small need computerized information systems to function and to maintain their competitive edge. Information systems should relieve organizations of the burden of slow and cumbersome manual paper-based processes and enable them to conduct business more efficiently and effectively. Information systems analysis is an important step before implementing any computerized information system. Mistakes during the analysis stage will significantly affect the later stages of system development and cost time and money to correct.

Competence in information systems analysis is crucial to every modern Information Technology professional, including those professionals highly demanded by the market such as Systems Analysts, Business Analysts, Web Developers, Information Architects, Database Administrators, Network Administrators or Software Engineers. This centrality is why courses in Information Systems Analysis are the core of IT programs worldwide.

Credits: 3 credits

Learning Objectives:
After taking this course, the students will be able to:
1. Define various systems analysis and design concepts and terminologies,
2. Describe the stages of the system development life cycle model,

3. Describe different methodologies and state-of-the-art developments in SA&D techniques and methods,
4. Compare, use and synthesize different conceptual modelling techniques for systems analysis (including ERDs, DFDs and UML),
5. Apply logic modelling techniques (decision tree/table, structured English),
6. Address the managerial issues involved in SA&D,
7. Model the importance of collaboration and communication during SA&D.

Recommended Course Materials and Textbooks

There is no required textbook in this class. Below is the list of recommended textbooks.

Jeffrey Hoffer, Joey George, & Joseph Valacich, Modern Systems Analysis and Design, 7th Edition, Prentice Hall, 2014. ISBN-13: 978-0-13-299130-8, ISBN-10: 0-13-299130-6.

John Satzinger & Tore Orvik, Object-Oriented Approach: Concepts, Modeling and System Development, 2nd Edition, Course Technology, Cambridge, MA, 2001. ISBN: 0-619-03390-8

Alan Dennis, Barbara Haley Wixom, & Roberta M. Roth, Systems Analysis and Design, 6th Edition, Wiley, 2015. ISBN-13: 978-1118897843, ISBN-10: 1118897846

Grading

Grades are assigned based on the quality of the work, not upon how well others performed. As shown below, several methods are used to assess a student's learning outcome resulting in 12 letter grades. In general, an A category means you've done an outstanding job in this course work, a B means your work is about what would be expected of a serious graduate student, and a C means that your work is adequate but is below what is expected of an iSchool graduate student. If you get a C or below in any assessment, you should contact the professor to discuss how to improve your learning outcome in this course (please note that this is applicable to participation grade as it is not provided until the end of the course).

Your final letter grade is calculated by first converting all the letter grades into numeric grades as follows:
A: 4
A-: 3.6
B+: 3.4
B: 3.2
B-: 3.0
C+: 2.8
C: 2.6
C-: 0

Then, the average of the all the numeric grades will be converted back to the letter grade using the above formula. The average falls right in between the letter categories or higher then it will be rounded to the higher letter grade (e.g., average grade being 3.5, 3.32 and 3.1 will receive

grade A-, B+, and B). Otherwise, it will be rounded to the lower letter grade (e.g., average grade being 3.46, 3.28, and 3.06 will receive grade B+, B, and B-).

No.	Letter graded Assessment	Due Dates (11:59 pm. of the day)
1	Group report 1	2/13
2	Individual assignment 1	2/27
3	Group report 2	3/6
4	Individual assignment 2	3/20
5	Group report 3	3/27
6	Individual assignment 3	4/3
7	Group report 4	4/11
8	Three group meetings with the professor	
9	Group report 5	4/24
10	Group poster	4/25
11	Reflection essay	4/25
12	Class Participation	

- Individual assignments

There are three individual assignments that are designed to help you exercise three techniques: Use Case Diagram (UCD), Data Flow Diagram (DFD), Entity-Relationship Diagram (ERD). You should complete these assignments by yourself. Please refer to the course schedule below for when these assignments will become available in Blackboard and when they are due.

- Group project

It is important to develop group work skills in modern work place. In this class, you will work with your classmates as a group to complete a semester-long group project. The professor will assign you to groups and choose a project for your group.

There are five group reports and one poster presentation for the project. The detailed requirements and the format of the reports will be available in Blackboard. An overview of the reports is as follows:

- The first report requires your group to deliver a group contract and a Baseline Project Plan.
- The second report requires your group to provide a use case diagram for the new/modified system to show the identified major use cases and explain the process of identifying these use cases. For example, if your group met the organization, you will provide the details about the meetings such as the topics, the questions your group asked, the number of meetings and the location, and the meeting attendees and their roles in the organization. Additionally, your group will identify three use cases to focus on in this project and provide rationale of selecting them. For each selected use case, your group will draw activity diagram and sequence diagram.
- The third report requires your group to provide a data flow diagram (DFD) for each of the three selected use cases, and a DFD that integrates the three individual DFDs.

- The <u>fourth report</u> requires your group to provide an entity relationship diagrams (ERD) each of the three selected use cases, and an ERD that integrates the three individual ERDs.
- The <u>fifth report</u> requires your group to deliver the low-fidelity UI prototype of the new/modified information system. The prototype illustrates your group's design of the forms and report, and dialogue interfaces when a user interacts with the system in the three use cases.

Your group needs to have at least three meetings with the professor to discuss the project progress. On December 1st 2017, your group will give a poster presentation to present your group's work. The evaluation of the poster presentation includes three aspects: the *poster content*, the *poster presentation* itself*,* and the *poster design*.

<u>a.</u> The content needs to include: 1) title and names of the group members; 2) introduction: project context, problem statement, etc.; 3) information about the analysis report: highlights what was done, how and why was it done, and lessons learnt; 4) information about the design report: highlights what was done, how and why was it done, and lessons learnt; and 5) references.
<u>b.</u> The poster presentation itself will evaluate 1) the group members' familiarity with the project; and 2) the group members' professionalism in the presentation (e.g., seriousness, confident, eye contact, presentation skill, and communication skill)
<u>c.</u> The poster design focuses on the information design of the poster, e.g., whether it is easy to identify the presented information, the organization of the presented information, etc.

Note: only one group member needs to submit the group reports and the poster file in BB. Group reports should be cumulative, including all the information and revisions from the previous report(s) if applicable.

- Three group meetings with the instructor
Your group will have a 30-minutes meeting with the instructor outside the class, at least three times during the semester. The purpose of these meetings is to discuss your project progress with the instructor such that if there are major problems with your group's approaches or analysis we can discover them and address them during the project. Your group receives A for having met with the instructor at least three times, B+ for two times, B for one time, and C for no meeting.

- Reflection essay
You will submit an **individual** reflection essay to reflect on what you've learned from the project. Please focus on three aspects:
1) <u>the IS analysis and design techniques applied in your project</u>: what do you think about applying the technique(s) in the analysis? What seemed to be a challenging point in the process? What have you learned in the process with respect to the usefulness of the technique(s) and how to use it (them) in information system analysis and design?
2) <u>the interaction with the partner organization</u>: did the organization's point of contact interact with your group sufficiently? Did your group use any strategy to engage him/her in

the analysis phase? What about your design phase? What would you do differently in the future when working with an organization that is in the similar situation?

3) <u>the interaction with the group members</u>: did the group work process go well since the beginning? what did you gain from this group work experience? What will you do differently next time to improve your group work experience?

- Class participation

Class attendance is mandatory. Active participation in the class is expected. The professor judges a student's class participation based on the following guidelines:

- In this course, being prepared, attentive, communicative, and respectful of your peers and the professor are all required. Participation may take many forms, verbal or written. It is expected that the students bring a positive presence to the class discussion. This involves an original idea or concept, elaborating but not simply repeating the ideas of other class members. In verbal form, the students should allow time for others to speak as well. Monopolizing the conversation are not encouraged.
- Class participation means not only offering opinions and information, but also asking questions, working constructively with other students, and listening.
- Attendance at all classes is mandatory. Students are required to participate in all class activities. A student who contributes positively to all or almost all classes throughout the course should expect appropriate credit. A student who persistently monopolizes the discussions should expect to earn less credit. A student who does not contribute to class discussions at all during class should not expect credit for the class participation grade.

University Attendance Policy

Attendance in classes is expected in all courses at Syracuse University. Students are expected to arrive on campus in time to attend the first meeting of all classes for which they are registered. Students who do not attend classes starting with the first scheduled meeting may be academically withdrawn as not making progress toward degree by failure to attend. Instructors set course-specific policies for absences from scheduled class meetings in their syllabi.

It is a federal requirement that students who do not attend or cease to attend a class to be reported at the time of determination by the faculty. Students should also review the university's religious observance policy and make the required arrangements at the beginning of each semester.

Specific Course Policies

- Written submissions will use Times New Roman, 12 pt, single column unless otherwise stated.
- Late submission will NOT be graded unless a written explanation is provided before the due date (a doctor's note is needed if applicable, e.g., late submission due to medical reasons). With a written explanation, a late submission will be accepted and graded if it is delivered to the professor by the new deadline arranged with the professor. However, a penalty will be taken by having the letter grade one level down (e.g., A -> A-, B+ -> B).
- A student who misses two or more classes will lose participation grade by one letter grade (e.g., A -> A-, B+ -> B, etc.). For each absent class, the student needs to write an essay (~1000 words) about the content covered in the class. The essay is due on the next class.

- If there is any question/concern about a grade, please contact the professor <u>within 1 week</u>. No re-grading requests will be accepted after the one-week period. In rare situations where a student fails to grasp the concept or skill from the individual assignment, the professor will contact the student to re-do the assignment. A grade penalty will apply in the re-do situation by one letter grade (e.g., A-> A-, B+ -> B, etc.).

University Policies:
Students should review the University's policies regarding Disability-Related Accommodation; Diversity and Disability; the Religious Observances Notification and Policy; and Orange SUccess, which can be accessed via the Office of the Provost's website at: http://provost.syr.edu/.

Academic Integrity Policy
Syracuse University's academic integrity policy reflects the high value that we, as a university community, place on honesty in academic work. The policy defines our expectations for academic honesty and holds students accountable for the integrity of all work they submit. Students should understand that it is their responsibility to learn about course-specific expectations, as well as about university-wide academic integrity expectations. The university policy governs appropriate citation and use of sources, the integrity of work submitted in exams and assignments, and the veracity of signatures on attendance sheets and other verification of participation in class activities. The policy also prohibits students from submitting the same written work in more than one class without receiving written authorization in advance from both professors. The presumptive penalty for a first instance of academic dishonesty by an undergraduate student is course failure, accompanied by a transcript notation indicating that the failure resulted from a violation of academic integrity policy. The presumptive penalty for a first instance of academic dishonesty by a graduate student is suspension or expulsion. SU students are required to read an online summary of the university's academic integrity expectations and provide an electronic signature agreeing to abide by them twice a year during pre-term check-in on MySlice. For more information and the complete policy, see http://academicintegrity.syr.edu/.

In this course, while students are encouraged to discuss the course content and form study groups on their own, individual assignments are expected to be completed by the students individually. In the group assignments, all group members are expected to participate actively and make sure that no plagiarism or other violations of the Academic Integrity occurs in the group reports.

Note: If I suspect any type of plagiarism or cheating, I will consult with the academic integrity panel.

Disability-Related Accommodations
Syracuse University values diversity and inclusion; we are committed to a climate of mutual respect and full participation. If you believe that you need accommodations for a disability, please contact the Office of Disability Services (ODS), disabilityservices.syr.edu, located at 804 University Avenue, third floor, or call 315.443.4498 for an appointment to discuss your needs and the process for requesting accommodations. ODS is responsible for coordinating disability-related accommodations and will issue "Accommodation Letters" to students as appropriate. Since accommodations may require early planning and generally are not provided retroactively,

please contact ODS as soon as possible. Our goal at the iSchool is to create learning environments that are useable, equitable, inclusive and welcoming. If there are aspects of the instruction or design of this course that result in barriers to your inclusion or accurate assessment or achievement, please meet with me to discuss additional strategies beyond official accommodations that may be helpful to your success.

Diversity
Syracuse University values diversity and inclusion; we are committed to a climate of mutual respect and full participation. My goal is to create learning environments that are useable, equitable, inclusive and welcoming. If there are aspects of the instruction or design of this course that result in barriers to your inclusion or accurate assessment or achievement, I invite any student to meet with me to discuss additional strategies beyond accommodations that may be helpful to your success.

Religious Observances Notification and Policy
SU's religious observances policy, found at supolicies.syr.edu/emp_ben/religious_observance.htm, recognizes the diversity of faiths represented in the campus community and protects the rights of students, faculty, and staff to observe religious holy days according to their tradition. Under the policy, students should have an opportunity to make up any examination, study, or work requirements that may be missed due to a religious observance provided they notify their instructors no later than the end of the second week of classes for regular session classes and by the submission deadline for flexible-formatted classes. Student deadlines are posted in MySlice under Student Services/Enrollment/My Religious Observances/Add a Notification. Professors may access a list of their students who have submitted a notification in My Slice Faculty Center.

Educational Use of Student Work
Student work prepared for University courses in any media may be used for educational purposes, if the course syllabus makes clear that such use may occur. You grant permission to have your work used in this manner by registering for, and by continuing to be enrolled in, courses where such use of student work is announced in the course syllabus.

Course Evaluation
There will be an end of course evaluation for you to complete this semester, described below. This evaluation will be conducted online and is entirely anonymous. You will receive a notification from the Syracuse University Office of Institutional Research & Assessment (OIRA) department in your email account with the evaluation website link and your passcode. We faculty work hard to do the best possible job when preparing and delivering courses for our students. Please understand that not only does the school use the course evaluations to make decisions about the curriculum in order to improve where necessary, but they also use them to make decisions about faculty members. Please take the time and fill out this evaluation as your feedback and support of this assessment effort is very much appreciated.

End of semester evaluation will be available for completion approximately week 14. This evaluation is slightly longer and it is used to gauge the instructor performance and make adjustments to the course to ensure it meets our student needs.

Blackboard Support
The iSchool uses Syracuse University's Blackboard system to facilitate distance learning and main campus courses. The environment is composed of a number of elements that will help you be successful in both your current coursework and your lifelong learning opportunities. To access Blackboard, go to the following URL: http://blackboard.syr.edu. Use your Syracuse University NetID & Password to log into Blackboard.

Questions regarding technical aspects of Blackboard, please submit a help ticket to the iSchool dashboard at My.iSchool Dashboard at https://my.ischool.syr.edu. Log in with your NetID, select "Submit a Helpdesk Ticket," and select Blackboard as the request type. The iSchool Blackboard support team will assist you.

Course Schedule

Week	Date	Topic	Optional Readings
1	1/17	Course overview; syllabus; Introduction to Software Development Life-Cycle (SDLC); IS project management	Syllabus, Ch. 1-3 in Hoffer et al. (2014)
2	1/24	IS initiating and planning (feasibility analysis)	Hoffer et al., Ch. 4-5 in Hoffer et al. (2014)
3	1/31	Requirements Collecting & Specification	Ch. 6 in Hoffer et al. (2014)
4	2/7	Use Case Modeling I	Appendix 7A and 7B in Hoffer et al. (2014)
5	2/14	Use Case Modeling II	Appendix 7C and Ch. 8 in Hoffer et al. (2014)
6	2/21	Process Modeling I	Ch. 7 in Hoffer et al. (2014)
7	2/28	Process Modeling II	Ch. 7 in Hoffer et al. (2014)
8	3/7	Data Modeling I	Ch. 8 in Hoffer et al. (2014)
	3/14	*Spring Break*	
9	3/21	Data Modeling II	Ch. 8 in Hoffer et al. (2014)
10	3/28	IS Design: Normalization and Database	Ch. 7 and 9 in Hoffer et al. (2014)
11	4/4	IS User Interface Design - Introduction	Ch. 11 in Hoffer et al. (2014)
12	4/11	IS User Interface Design – Forms and Reports	Ch. 10 in Hoffer et al. (2014)
13	4/18	Implementation and Maintenance	Ch. 13-14 in Hoffer et al. (2014)
14	4/25	Group Poster	