IST 654. Information Systems Analysis: Concepts and Practice

PROFESSOR:  Ping Zhang

Office: 328 Hinds Hall  Office Hours: By appointment; before/after class
Phone: 443-5617  Email: Inside BB, or pzhang@syr.edu

Class Time: May 14-18, 9am – 5pm  Class Place: Hinds 021
Class Homepage: http://blackboard.syr.edu

COURSE DESCRIPTION & OBJECTIVES

Modern organizations need computerized information systems in order to function, survive, and stay in competitive edge. Large corporations and small businesses need information systems to conduct businesses including e-businesses, to relieve themselves from the burden of paperwork and manual processing that are slow and cumbersome. Information systems analysis is an important step before implementing any computerized information system. Any mistakes made during the analysis stage will significantly affect the later stage of the system development and thus can cause an organization a lot of financial and strategic damages.

The competence in information systems analysis is crucial to virtually every modern Information Technology profession, 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 is why Information Systems Analysis course plays a key role in many IT programs world wide.

This is an introduction course to the concepts and techniques of information systems analysis and design (SA&D) that focuses on analysis skills as well as managerial issues. The course is intended for master-level students, or for undergraduates who have taken IST 352. The course covers techniques used by modern systems analysts and gives extensive practice with structured methodologies and object-oriented techniques.

Specifically, the course will emphasize
(1) Experiential learning through assignments and projects,
(2) Collaborative learning the important concepts, techniques, and skills with peers through class discussions and project conduction.

Upon completion of the course, students are expected to be able to
(1) Define various systems analysis and design concepts and terminologies,
(2) Describe the system development life cycle model and various stages,
(3) Describe different methodologies and state-of-the-art development in SA&D techniques and methods,
(4) Compare, use and synthesize different conceptual modeling techniques for systems analysis (ER, DFD and UML),
(5) Describe various logic modeling techniques (decision tree/table, structure English),
(6) Illustrate various managerial issues involved in SA&D,
(7) Comprehend the importance of collaboration and communication during SA&D.
Compare to IST 352, this course seems to cover the similar topics and methods. However, the depth and intensity are quite different. The following are quotations from those who had taken 352 and then took 552 (the former course ID for the course):

“Since I was an undergraduate here in IST I had taken the undergraduate course for systems analysis. I must say that the graduate course is much tougher but also much more valuable and rewarding. As a result of this experience, I have gained a much deeper knowledge of system analysis and the associated conceptual modeling techniques.”

“I came into IST552, already having taken IST352 and with what I thought was a pretty good understanding of Data Flow Diagrams and Entity-Relationship Diagrams. What I was lacking and I gained through IST552, was a deeper knowledge of the concepts and techniques of information systems analysis and design. Although I struggled at times, I feel that I was able to grasp the main concepts of this course, and that the lessons I learned will benefit me in both future classes and employment.”

TECHNOLOGY REQUIREMENTS

Students are expected to meet the minimum and recommended information technology literacy skills required of students in all School of Information Studies master's programs. The iSchool uses the Syracuse University BlackBoard (BB) learning management system. Access to BB is available at the following URL: http://blackboard.syr.edu. You need to use your SU NetID to log in to access the courses you register. Questions regarding BB itself should be directed to either Peggy Brown (pbrown01@syr.edu) at 443-9370.

Students are required to frequently check the 654 class site within BB, especially prior to the beginning of each class. Some teaching materials (syllabus, class notes, assignments, etc.) will be available on the class website, so are course related communications (emails, group work, discussions, and grading results).

COURSE MATERIALS AND TEXTBOOKS (BOTH BOOKS ARE REQUIRED)

- Classnotes in PowerPoint from the professor, available in BB. If there are discrepancies on materials or class scopes, classnotes should be used as the most reliable source.


- Supplementary readings available in BB.

COURSE CONDUCT

The course includes lectures, case studies, in class exercises, class discussions, group projects, and student presentations.

Attendance and Participation

Attendance in class is required and critical. Regular attendance and active participation in discussions will help enormously in understanding important concepts/issues and preparing for assignments, especially with the intensive format for the summer institute course. Please arrange to meet and work
with the professor if you anticipate class absence. Students are strongly encouraged to communicate frequently (in person or on-line) with the professor and other students to discuss any matters with regard to assignments, group projects, and/or any aspect of the course. If you have problems with public speaking, you should meet with the professor within the first two weeks of school to establish a special way of achieving the goals.

**Communication outside Classroom**

Important announcements will be sent to BB. Students thus are required to check BB on a regular basis both before and during the class period. Failure to receive such announcements cannot be used as an excuse for not being informed.

The professor welcomes emails sent to her BB email account, which is the preferred way of communication outside the classroom. In case of technological failures with BB or other related matters, emails can be sent to her pzhang@syr.edu account. Due to many other roles and tasks the professor has, please do not expect an immediate response on your message. However, in ordinary circumstances it is expected that the professor will respond within 48 hours before the class starts, and within 24 hours during the 5-day class period.

To facilitate bookkeeping and easy for others to follow, please do the following when sending a message either to the professor, or the bulletin board inside BB:

- Compose one message for one issue (e.g. do not ask about your grade and a specific question on course materials in the same message: put them in two instead)
- Use a meaningful heading for your message.

**ASSESSMENT**

A total of five assignments will be assigned. Some of the assignments will be discussed in meetings after the assignments are due. Most assignments will help build a base for future assignments. Thus all assignments should be turned in on time as specified. An over due assignment will get a penalty of 20% of total points for each day late. Grades are assigned based on the quality of the work, not upon how well others performed. An A (or 90-100% of full points) means your work is really outstanding, a B (80-89) means your work is about what would be expected of a serious student, a C (70-79) means that your work fall below what is expected but is adequate, a D (60-69) means your work is way below what is expected but still within the context, and an F means your work is out of the picture. Participation grades reflect professor's subjective judgement on how much of a contribution you will have made to class discussions (in class and online). Missing attendance would affect your contribution, so would attending classes but being silent.

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<thead>
<tr>
<th>#</th>
<th>Position</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>1</td>
<td>Position Paper: What is a System Analyst</td>
<td>15%</td>
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<tr>
<td>2</td>
<td>Process Modeling (DFD)</td>
<td>15%</td>
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<tr>
<td>3</td>
<td>Data Modeling (ERD)</td>
<td>15%</td>
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<tr>
<td>4</td>
<td>Object-Oriented Modeling (UML)</td>
<td>15%</td>
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<tr>
<td>5</td>
<td>Group Project</td>
<td>30%</td>
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<td></td>
<td># 5-1. Group Presentation: 5%</td>
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<td># 5-2. Final Report: 25%</td>
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<tr>
<td>6</td>
<td>Participation</td>
<td>10%</td>
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<td></td>
<td>Total</td>
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RE-GRADING REQUESTS

It is a student's responsibility to ask questions or request re-grading of an assignment within two business days from the time the assignment is returned. No re-grading requests will be accepted after the two business day period.

STUDENTS WITH DISABILITIES

In compliance with section 504 and the Americans with Disabilities Act (ADA), Syracuse University is committed to ensure that “no otherwise qualified individual with a disability … shall, solely by reason of disability, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity …” If you feel that you are a student who may need academic accommodations due to a disability, then you should immediately register with the Office of Disability Services (ODS) at 804 University Ave., Room 390 3rd Floor, 315-443-4498 or 443-1317 (TDD only). ODS is the Syracuse University office that authorized special accommodations for students with disabilities. In addition, students who need special consideration should see the professor at the start of the semester and any time thereafter if further consideration is needed.

ACADEMIC DISHONESTY

The academic community of Syracuse University and of the School of Information Studies requires the highest standards of professional ethics and personal integrity from all members of the community. Violations of these standards are violations of a mutual obligation characterized by trust, honesty, and personal honor. As a community, we commit ourselves to standards of academic conduct, impose sanctions against those who violate these standards, and keep appropriate records of violations. The academic integrity statement can be found at: http://supolicies.syr.edu/ethics/acad_integrity.htm.

In IST654, students are encouraged to discuss class contents and homework with their fellow classmates or to seek help from others. However, all individual based assignments are to be completed by the individual student, and all group based assignments are to be done by the group. Academic dishonesty in any form is not tolerated, nor is assisting another person to cheat.

TENTATIVE CLASS SCHEDULE (AS OF APRIL 29, 2012)

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<thead>
<tr>
<th>Date</th>
<th>AM Topic</th>
<th>PM Topic</th>
<th>Reading*</th>
<th>Due</th>
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<tbody>
<tr>
<td>5/12</td>
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<td>H Ch1-5</td>
<td>#1. Position paper</td>
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<td>5/14</td>
<td>Introduction; Initiating; Planning</td>
<td>Req. Collecting; IS Projects Management; Group Project initiating</td>
<td>H Ch1-6</td>
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<td>5/15</td>
<td>Process Modeling</td>
<td>DFD exercise &amp; HW; Visio Demo</td>
<td>H Ch7</td>
<td>#2. DFD</td>
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<tr>
<td>5/16</td>
<td>Discussing #2 DFD; Data Modeling</td>
<td>ERD exercise &amp; HW; Group Proj Part 2</td>
<td>H Ch9</td>
<td>#3. ERD</td>
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<tr>
<td>5/17</td>
<td>Discussing #3 ERD; OO Modeling DFD &amp; ERD together</td>
<td>UML exercise &amp; HW; Group Proj Part 2</td>
<td>S&amp;O Ch1-9, H Append.</td>
<td>#4. UML</td>
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<td>5/18</td>
<td>Discussing #4 UML; User interfaces; Methodologies</td>
<td>Putting together project; Presentations (3-5pm)</td>
<td>H Ch8, 10-12, 15-16</td>
<td>#5.1 Presentation</td>
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<td>5/19</td>
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<td>#5.2 Final Project Report</td>
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*Note: H is for the Hoffer et al. book; S&O is for the OOA book.