Course Information

Semester: Spring 2014
Meetings: Mondays, 9:30am-12:15pm, LI031
Instructor: Dr. Noriko Hara
Office Hours: Mondays 12:15-1:00pm (LI019) or by appointment
Contact: nhara@indiana.edu

Note: Use Z556: ___________ for a subject line
Please do not send me e-mail from Oncourse

812-855-1490 (phone)
812-855-6166 (fax)

Co-instructor: Tamy Chambers
tischt@indiana.edu

Course Description:

Z556 is one of the core curriculum courses for the ILS Master of Information Science degree. This course will introduce the basic concepts underlying systems analysis and design, focusing on contextual inquiry/design and data modeling, as well as the application of those analytical techniques in the analysis and design of organizational information systems. We will work on the processes that project teams should follow to understand their users’ work and then build information systems to enhance that work practice. The important philosophy introduced in this course focuses on the concept of user-centered design.

Upon completion of this course, you should be able to:

- Acquire a concept of systems analysis and design and its meaning in practice;
- Use a variety of information systems analysis and problem-solving tools and approaches;
- Acquire a concept of rapid-prototyping design and apply it to a problem;
- Become familiar with user-centered design and usability testing processes;
- Develop skills in analyzing and designing information systems from the socio-technical perspective;
- Describe the basic techniques of project estimating, writing detail specifications;
- Develop effective communication strategies with project stakeholders.

Textbooks:

Required textbook:

Optional Textbook:

Note:
- Although Lencioni’s book does not appear in the reading schedule, you are expected to read a couple of chapters every week and finish reading the book by Week 12, March 31.
- You can find assigned articles on Oncourse or the course website.

Course Schedule and Readings by Week:

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<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Project due and Presentation</th>
<th>Readings</th>
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<tr>
<td>Week 1. Introduction (01/13/2014)</td>
<td>• Introduction</td>
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<td>• Overview of syllabus</td>
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<td>• Team-building activity</td>
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<td>Week 2. (01/20/2014)</td>
<td><strong>No Class- Martin Luther King Jr. Day</strong></td>
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<td>Week 3. (01/27/2014)</td>
<td>• Introduction to user-centered analysis and design</td>
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<td>Davis Ch 2</td>
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<td>• The systems development life cycle</td>
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<td>Garcia et al.</td>
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<td>• Problem definition</td>
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<td>Satzinger</td>
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<td>Week 4. (02/03/2014)</td>
<td>• Contextual inquiry as systems analysis</td>
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<td>HWW Ch 3 &amp; 4</td>
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<td>• Interviews for collecting data</td>
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<td>• Teamwork activity</td>
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<td><strong>Individual assignment I due (problem definition)</strong></td>
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<td>HBR IdeaCast</td>
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<td>Week 5. (02/10/2014)</td>
<td>• Organizing for team projects</td>
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<td>Lewis Sec 3</td>
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<td>• Project Management essential</td>
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<td>Valacich et al</td>
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<td>• Information gathering</td>
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<td>Block Ch 13</td>
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<td>Williams</td>
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<td>Week 6. (02/17/2014)</td>
<td>• Modeling sequences of events; Detailed task modeling; Activity diagrams</td>
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<td>• Individual assignment II distributed</td>
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<td>B&amp;H Ch 5</td>
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<td><strong>Team project draft due (Info gathering plan and scheduling)</strong></td>
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<td>B&amp;H Ch 6 (p.89-101)</td>
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<td>Schmuller</td>
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<td>Lejk &amp; Leeks</td>
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| Week 7. (02/24/2014) | UML overview  
|                     | UML: Use Case diagrams  
|                     | Individual assignment II due (Flow/sequence/task models)  
|                     | Chitnis et al  
|                     | Bell  
|                     | B&H CH 7  
| Week 8. (03/03/2014) | Modeling physical layout, organizational culture, & the artifacts used  
|                     | Interpreting and integrating data from multiple perspectives  
|                     | Individual assignment III distributed  
|                     | B&H Ch 6  
|                     | (p.102-123)  
|                     | Monk & Howard  
|                     | Bell & Morse  
|                     | Case study  
| Week 9. (03/10/2014) | Data modeling: E-R diagrams  
|                     | UML  
|                     | Individual assignment III due (Artifact/cultural physical models)  
|                     | Teorey Ch 2 & Ch 3  
|                     | Podeswa  
| Week 10. (03/17/2014) | No Class- Spring Break  
| Week 11. (03/24/2014) | Consolidating the models  
|                     | A consolidated view of the data  
|                     | Block Ch 9, 14, 15  
|                     | B&H Ch 9  
|                     | HWW Ch 8  
| Week 12. (03/31/2014) | User interface design; prototyping  
|                     | Usability testing  
|                     | Team project draft due: Integrated work models  
|                     | Buxton  
|                     | HWW Ch 11  
|                     | Benford et al.  
| Week 13. (04/07/2014) | Data-driven design  
|                     | Evaluating design alternatives  
|                     | Team work project time  
|                     | Shtub et al.  
|                     | Yen & Davis  
|                     | Satzinger et al  
|                     | Mind Tools  
| Week 14. (04/14/2014) | Team presentations on teamwork  
| Week 15. (04/21/2014) | Change Management  
|                     | Wrap-up  
|                     | Team project draft due (Ideas for design/Usability testing/client feedback report)  
|                     | HWW Ch 16  
|                     | Ward  
|                     | Gibson  
|                     | Jacobson  
| Week 16. (04/28/2013) | Team presentations  
| 04/30/2014 | Final Project Due  

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**Bibliographical References of Readings:**

**BASIC CONCEPTS IN SYSTEMS ANALYSIS**

**Week 1:** Introduction

**DEFINING THE PROBLEM**

**Week 3:** Introduction to user-centered analysis and design & Problem definition

**Week 4:** Contextual Inquiry & Teamwork activity
Holtzblatt, Wendell, & Wood, Chapter 3, Planning your contextual interviews [e-book]
Holtzblatt, Wendell, & Wood, Chapter 4, The contextual inquiry interview [e-book]
HBR IdeaCast (2010). Rebuilding trust at Toyota. HBR Blog Network. [Oncourse]

*Additional reading:*

**Week 5:** Project Management & Information gathering

**Additional readings:**

**MODELS OF WORK IN ORGANIZATIONS**

**Week 6: Work Models**
Beyer & Holtzblatt, Chapter 5, A language of work, p. 81-89. [Oncourse]
Beyer & Holtzblatt, Chapter 6, Work models – The flow model, p. 89-96; the sequence model, p. 96-101. [Oncourse]

**Week 7: UML Overview**
Beyer & Holtzblatt, Chapter 7, The Interpretation Session. [Oncourse]

**Week 8: More on Models**
Beyer & Holtzblatt, Chapter 6, Work models – The artifact, physical, & cultural models, p102-123. [Oncourse]
Natural Best Health Food Stores Case study [Oncourse]
**Additional readings:**
Holtzblatt, Wendell, & Wood, Chapter 6: Work modeling. [e-book]

**DATA MODELING**

**Week 9:** Data modeling; Entity-relationship diagrams

**Additional readings:**

*Note:* Read this if you are not familiar with E-R diagrams.

**FROM ANALYSIS TO DESIGN**

**Week 11:** Consolidation process
Beyer & Holtzblatt, Chapter 9, Creating one view of the customer. [Oncourse]
Holtzblatt, Wendell, & Wood, Chapter 8, Building an affinity diagram [e-book]

**Week 12:** User interface design & Usability testing
  - Chapter on “127 Experience design vs. interface design,” “135 Sketching Interaction,” “139 Sketches are not prototypes,” “143 Where is the User in All of This?,” “145 You Make That Sound Like a Negative Thing,” and “371 Interacting with paper [Oncourse]
Holtzblatt, Wendell, & Wood, Chapter 11, Visioning a new way to work [e-book]
**Additional reading:**
Holtzblatt, Wendell, & Wood, Chapter 13, Testing with paper prototypes [e-book]

**IMPLEMENTATION ISSUES**

**Week 13:** Data-driven design & Evaluating design alternatives

**Additional readings:**

**Week 15:** Change management
Holtzblatt, Wendell, & Wood, Chapter 16, Issues of organizational adoption [e-book]

**Course Deliverables and Grading:**

Readings are assigned for each class period, and the latest information about readings will be listed on the class website. Please come prepared. Class discussions are important, and I expect all students to participate. Your grade will be based on individual assignments (45%), a team project (45%), and class and team participation (10%).
Individual work
Problem definition: 15%
Flow/sequence/task model: 15%
Artifact/cultural/physical model: 15%

Team project work
Presentation on teamwork: 10%
Presentation to class/client: 5%
Final specifications: 30%

Participation (class and team): 10%

The class will be conducted in a participative manner, with members of the class having significant control over the content of each class session.

To receive a passing grade in this course, you must turn in all of the assignments and the term project and complete all presentations. You cannot pass this course without doing all of the assigned work (which includes the final presentation), however, turning in all of the work is not a guarantee that you will pass the course.

To earn a B in this course your work must consistently demonstrate and/or include:

- a base line level of competence
- an understanding of lecture content and reading assignments
- correct and complete answers

Your work must also meet all of the requirements of the assignments. To earn a higher grade you must surpass the criteria and expectations for a B; to do so your work should consistently demonstrate and include:

- **Enthusiasm** - exhibited both in class and in assigned course work
- **Synthesis** - demonstrated by identifying connections between and crossover in the various topics relevant to systems analysis and design
- **Investigation** - exploring readings and experiences relevant to the class beyond those which are assigned

Your work should also demonstrate the ability to see the relationship between coursework and the larger issues regarding systems analysis and design.

Please also refer to DILS Grading Policy at http://ils.indiana.edu/courses/forms/grades.html
**Academic Dishonesty:**

There is extensive documentation and discussion of the issue of academic dishonesty here in the Indiana University “Code of Student Rights, Responsibilities and Conduct.” Of particular relevance is the section on plagiarism:

### 3. Plagiarism

A student must not adopt or reproduce ideas, words, or statements of another person without appropriate acknowledgment. A student must give credit to the originality of others and acknowledge an indebtedness whenever he or she does any of the following:

- A student must not adopt or reproduce ideas, opinions, theories, formulas, graphics, or pictures of another person without acknowledgment.
- A student must give credit to the originality of others and acknowledge indebtedness whenever:
  1. Directly quoting another person’s actual words, whether oral or written;
  2. Using another person’s ideas, opinions, or theories;
  3. Paraphrasing the words, ideas, opinions, or theories of others, whether oral or written;
  4. Borrowing facts, statistics, or illustrative material; or
  5. Offering materials assembled or collected by others in the form of projects or collections without acknowledgment.


Indiana University and the Department of Information and Library Science policies on academic dishonesty will be followed. Students found to be engaging in plagiarism, cheating, and other types of dishonesty could receive an F for the course. As a rule of thumb, when in doubt, cite the source!

**Course Policies:**

**On honor and collaboration:**

Course assignments are designed to help you build a professional portfolio and gain practical experiences. Most of the class time will be used for discussions and exercises, and you are expected to spend outside of class time each week to practice your skills, work on assignments, and complete readings. You are encouraged to help each other throughout this course. However, the work you submit must be your own. Any student who submits work completed by someone else will receive a 0 score for that assignment, and may receive an F for the course.
On attendance:
I expect you to attend all class meetings. If you cannot attend class, you must notify the instructor in advance (preferably more than 24 hours prior to the class). Attendance will factor into your final grade. Unexcused absences will not be tolerated; numerous absences are frowned upon, and if you foresee yourself missing multiple classes, be sure to see the instructor the first day after class. Make-up work may be negotiated only in cases of documented, excused absences. If you do not come to the class on time, it will affect the participation grade.

On personal technologies:
Please turn off your cell phone before each class starts. It is rude for class activities to be interrupted by a ringing cell phone. Similarly, text messaging will not be tolerated in class; any student found to be sending or checking text messages during class will be invited to make a choice either to cease the texting or leave the classroom.

You are welcome to bring your laptop to class and use it to take notes, access readings we are discussing, etc. You are not welcome to surf the web, check e-mail, or otherwise perform non-class-related activities during class. If I find you using it not to perform a task specifically related to what we are doing in class at that very moment, it will affect your participation grade.

Assignment Turn-in Policy:
Unless otherwise noted, due dates are at the beginning of class time on the due date. If you come to the class late and submit an assignment after the class begins, it will be considered as a late submission. Due times for non-class days are 5 PM. Unexcused late work may be penalized. Assignments that are over 6 days late will not be accepted unless arrangements have been made with me. If you have unexpected events and need to submit the assignments late, please contact me beforehand.

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact IU Disability Services for Students <http://www2.dsa.indiana.edu/dss/>.

The instructor reserves the right to change, omit, or append the Course Syllabus whenever she deems it appropriate to do so.