

Designing and Developing an Information System - I450/I451 Fall 2006 Course Syllabus

Course Description: Senior undergraduate students work on capstone projects in supervised teams. Teams select an appropriate project (preferably based on cognate specialty area), then learn to develop a plan that leads to success. Teamwork, communication, and organizational skills are emphasized in a real-world styled environment.

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Meeting Times: TR 2:30 – 3:20 Woodburn Hall 120 (Lecture)
W 11:15 – 12:30 Informatics Building 109 (Lab)
W 4:00 – 5:15 Informatics Building 109 (Lab)
R 11:15 – 12:30 Informatics Building 109 (Lab)

Lab Sections: The labs are used for a variety of activities, including technology seminars and training, employer events, career planning and resume preparation, and as a time and a place to work. We keep track of your attendance at the labs so that you get credit for being there, which is one form of participation.

Technology Training: Throughout the year we will be developing, and delivering topical seminars (during the scheduled labs and other scheduled times) on a variety of technologies/techniques. The need for these seminars has arisen from our past experience with the diverse range of skills and interests of students in the course. The emphasis of the seminars is on learning how to use a specific technology – ideally aimed at solving a problem related to your project. You are encouraged to suggest topics that you are interested in learning. You must develop a training plan, select, attend, and successfully complete at least 14 seminars (or equivalent approved outside training opportunities) during the year to receive full credit for this portion of your course grade. Due dates for technology seminar deliverables are one week after the seminar unless a written agreement from one of the course instructors is provided. Extra credit may be earned by attending more than 14 seminars.

Status Reporting: You must submit a weekly written status report that identifies your activities relative to the course. The reports are per project team with detailed sections for each team member. You will be provided with a template, or software to facilitate the reporting. Like the technology seminars you must submit a report every week in order to receive full credit. Your grade for each status report will be one of: exceeds expectations, acceptable, or not satisfactory. In all cases (even exceeding expectations) you can expect specific suggestions on how to improve your status reporting.

Personal Journal: Part of becoming a professional involves the setting of personal goals and objectives, planning your activities, and reporting on progress. To accomplish this, each student will record their activities relative to their capstone project in a journal. Entries in the journal are expected to be brief, but you should expect to be questioned about any lack of clarity. An entry should identify the date and time of your activity, as well as any pertinent information necessary to understand what you were doing. You may choose the method that suits your personal habits best for keeping track of your activities. For example, a paper calendar may be used for marking when you had a meeting, or times you worked in the lab. You must bring it to status meetings if a question arises about your specific activities. We will formally review your journal at the end of the first semester, and again at the end of the second semester. We may ask to see your journal at other random times.

Team Formation: Each year we want to get the projects started as earlier than the previous year. This year is no exception. We blend project selection and team formation. Some teams start by selecting a project or type of project, other teams form first and then search for the appropriate problem to solve. We like the students to participate in this process (if they want) by working with us on forming teams. If you have an idea for a project or a team talk to us right away.

Deliverables: The single most important thing that students should focus on is meeting due dates for deliverables. We will provide guidelines for when the deadlines will occur. Your group will suggest the deadlines and we will review and approve them. Once a deadline is set you may only change a deadline if we approve the change. You will report your progress towards the deliverables on your master project plan. If you are at risk of missing a deadline you must explicitly report this in your status reports, along with an explanation of why the situation has occurred and what you are doing to remedy the problem.

Access Cards: You will be provided an electronic access card for the Informatics building. The card will give you 24-hour access to the building and the capstone lab (Room 003) in the basement. Other rooms may also be used, based on specific group needs. When you get your card (unless you do not want one) you will be subject to the following expectations:

- 1) You will use the facilities for appropriate, course related activities
- 2) You will leave the facility as you found it
- 3) You will notify the facility manager and the instructors if a problem occurs
- 4) You will not allow an unauthorized individual use your card
- 5) You will return the card at the end of the course
- 6) Your use of the card is electronically monitored
- 7) You will notify us immediately if you lose your card
- 8) Lost and un-returned cards will result in a \$25 fee to your bursar account

Presentations: There will be at least 2 electronic poster presentations during the year to allow everyone within the class to gauge their progress relative to the other teams. The final poster presentation is at the capstone fair on April 27th.

Grading:

Half of your final grade is derived from your project, the bulk of which is completed in the second semester. The following table provides a breakdown of the relative value of each phase of the project, as well as the values for each individual assignment or exam.

Project	
Requirements	15%
Design	10%
Implementation	15%
Process/reporting	10%
Exam 1	5%
Exam 2	5%
Personal Journal	10%
Training Plan	5%
Technology Seminars	20%
Participation	5%

You should note that “what” you deliver at the end of the year is less valuable than “how” you work towards delivery. You must provide evidence of sustained effort on your project.

The grade for the first semester is automatically an “R”, which means that you will receive one grade for the entire class at the end of the second semester. Except for rare cases, the first semester and second semester grade will be identical.

Your group will receive an unofficial/unreported for the project at the end of the first semester. You should interpret the grade as a trajectory for the final project grade, and it implies that if your level of effort, and the results your of the project stays consistent, you should expect to receive the interim grade as a final project grade. Note that a group project grade does not imply that all members on a group will receive that grade. In particular, low performing individuals should not be surprised to receive a grade much lower than the project grade.

Communications:

We will utilize OnCourse for all course communications.

Home Page:

www.informatics.indiana.edu/dgroth/courses/i450

Textbooks:

- (1) *Software Requirements*, Karl E. Wieggers, Microsoft Press, 1999.
(Recommended – but available online at Books 24x7 from the course homepage)
- (2) Other materials will be available on Books 24x7 or the course web page.

Key Deliverables

Week	Expected Date	Deliverable
3	Sep 16	Project team identified
5	Sep 30	Project proposals
7	Oct 14	Training and education plan
8	Oct 21	Projects solidified
12	Nov 18	Requirements document, draft project plan
15	Dec 7	Electronic poster presentation for class members
18	Jan 20	Design document
19	Jan 27	Detailed project plan
23	Feb 22	Electronic poster presentation for class members
31	Apr 27	Capstone Fair – Friday, April 27, 3:00-6:00 PM
32	May 1	Last day to turn in reports, CD's, documentation

Lecture Topics (subject to change)

Week	Date	Topic / Activity
1	Aug 29, 31	Course Introduction, Information Systems Components Project Basics, Development Models, Lifecycles
2	Sep 5, 7	Team Organization, Dynamics, Personnel Issues Project Proposals
3	Sep 12, 14	Project Planning IT Career Fair (September 14)
4	Sep 19, 21	Functional Requirements Qualitative Requirements
5	Sep 26, 28	Requirements Elicitation Data Requirements
6	Oct 3, 5	Quality Requirements, Requirements Documentation Project Management
7	Oct 10, 12	Architecture, Exam 1
8	Oct 17, 19	Functional Design
9	Oct 24, 26	Data Design
10	Oct 31, Nov 2	User Interface Design Tool Selection Prototyping
11	Nov 7, 9	Process Analysis Project Risks
12	Nov 14, 16	Project Estimation Project Planning
13	Nov 21	Validation Techniques
14	Nov 28, 30	Test Plans Detailed Specifications
15	Dec 5, 7	Managing Change Exam 2

Policies

Attendance.

We expect that students will approach the course as they should a professional job - attend every class. Lecture outlines will be provided to assist you in following and organizing the course material, but are by design not a verbatim transcript of what is covered in the lectures.

Academic Integrity.

As with other aspects of professionalism in this course, you are expected to abide by the proper standards of professional ethics and personal conduct. This includes the usual standards on acknowledgment of joint work and other aspects of the Indiana University Code of Student Rights, Responsibilities, and Conduct. Cases of academic dishonesty will be reported to the Office of Student Ethics, a branch of the Office of the Dean of Students.

Withdrawal.

Wednesday, October 25, is the last day to drop a course or withdraw from all courses with an automatic 'W'. After that date, a student may withdraw only with the permission of his or her dean. This approval is normally only for urgent reasons related to extended illness or equivalent distress.

Incomplete Grade.

An incomplete (I) final grade will be given only by prior arrangement in exceptional circumstances conforming to university and departmental policy which requires, among other things, that the student must have completed the bulk of the work required for the course with a passing grade, and that the remaining work can be made up within 30 days after the end of the semester.

Group work.

Because the capstone project is a group effort we expect that each member of a group will perform their activities to the best of their ability. Each team member must submit peer evaluation forms twice during the second semester. The forms will be due at the midpoint and the end of the semester. The information on the forms is used to apportion the project grade based on each team member's contribution. This means that grades among team members may vary.

Removal From Group.

In extreme cases of non-performance on the group project a team member may be removed from the group. This will not occur without proceeding through a notification process and face to face meetings with the team, the affected team member and the instructors. This is not an open invitation to dis-invite someone from the team based on personality conflicts. If a student is removed from a project, an alternative project will be assigned.

Podcasts.

We are experimenting again this year with podcasting different aspects of the course. Note that if a lecture is podcast that attendance is still expected. If you have any ideas for shows you would like to see produced please let me know.