Syllabus - IS 409: Systems Development

(IS Physical Design, Implementation, and Maintenance)

Section 1 – Winter Semester 2007 – GCB 143

TTH 8:30 – 9:50 AM – Course Credits: 3

Instructor: Bret Swan
Office: GCB 126
Office Phone: 293-3473
Email: swanb@byuh.edu
Office Hours: 12:30-2pm TTH, or email for appointment on MWF

VISION:

Students who have completed the systems analysis and design course will extend their knowledge by implementing an information system in an emerging systems environment. Teams will use project management principles to implement an information system.

SCOPE:

This course examines the system development and modification process. It emphasizes the factors for effective communication and integration with users and user systems. It encourages interpersonal skill development with clients, users, team members, and others associated with development, operation, and maintenance of the system. Structured and object oriented analysis and design, use of modeling tools, adherence to methodological life cycle and project management standards.

TOPICS:

Life cycle phases: requirements determination, logical design, physical design, and implementation planning; interpersonal skills, interviewing, presentation skills; group dynamics; risk and feasibility analysis; group-based approaches: project management, joint application development (JAD), and structured walkthroughs; structured versus object oriented methodologies; RAD, prototyping; database design; software package evaluation, acquisition, and integration; global and inter-organizational issues and system integration; professional code of ethics.

DISCUSSION:

Students with the basic skills of information technology will learn to gather information in order to identify problems to be solved. They will determine system requirements and a logical design for an information system. A project of limited scope will be designed during this course.

Students will investigate alternative solutions, and will determine feasibility of solutions. They will identify value added by the completion of the system.

Students will be exposed to methods to support each stage of the development process. While automated tools are not a substitute for understanding of the processes involved, they may be used to ensure that a particular methodology is used rigorously. If manual methods are used, it is important to define the methodology thoroughly.

Project management will be taught and used to control the team project. Team concepts including personal and interpersonal skills will be discussed and monitored. Empowerment concepts will be used and measured. Scheduling and completing individual and group actions will be used to ensure project milestone completion.

TEXT:

- *Systems Analysis and Design with UML Version 2.0 – An Object Oriented Approach*, Dennis, Wixom & Tegarden, Wiley Publishers, 2nd Edition.

RESOURCES:

- Blackboard will be used for providing course information, course announcements, additional reading, grades, and submitting homework using the Digital Dropbox.
- ISA Exam: www.iseducation.org
- GCB 150 Software: Microsoft Office, Project, and Visio.

COURSE OUTCOMES:

1. Demonstrate an understanding of the definitions and differences between "information systems" and "information technology" and how they relate to "work systems: and managing business processes.
2. Describe the differences, advantages, and disadvantages between UML diagrams and traditional approaches to systems analysis and design diagramming.
3. Describe the differences, advantages, and disadvantages between object-oriented and traditional approaches to systems analysis and design.
4. Demonstrate knowledge the layers of design and how they apply to specific projects.
5. Demonstrate abilities necessary for planning, analysis, and requirements determination (appropriately carried out and documented using the methodology and format assigned) as a prerequisite to learning systems design, implementation, and maintenance activities.
6. Demonstrate skills in analysis, design, and development of application software using a programming environment.
7. Identify differences between a structured, event-driven, and object-oriented application design and explain the implications of these approaches to the design and development process.
8. Demonstrate the ability to develop program tests and system tests.
9. Describe understand the different programming environments available for business application development.
10. Demonstrate a functional understanding of proactive principled behavior and time management
11. Practice attitudes necessary for successful team behavior including empathetic listening, consensus negotiation, conflict resolution, and synergistic solution finding, and to apply the concept of commitment and rigorous completion.
12. Demonstrate appropriate goal setting and alignment of team activities with project obligations and reporting requirements.
13. Demonstrate how systems analysts interact with users, management, and other IT professionals by practicing giving individual and group presentations, interactions with higher levels of management, selling project objectives, and performing project management reporting tasks.
14. Describe and explain life cycle concepts, and apply them to the course project.
15. Demonstrate and practice of skills necessary to produce life-long learning.
16. Present and explain the evolving leadership role of information management in organizations.
17. Develop and describe in-depth how information technology (IT) supports users.
18. Practice development of appropriate systems design, implementation, and maintenance modeling using UML 2.0.
19. Pass ISA Exam Parts 1 & 2 to qualify for a minimum final grade of:
    i. 60% to be considered for an A.
    ii. 50% to be considered for a B.
    iii. 40% to be considered for a C.
    iv. Below a 40% on the ISA, students must retake the course.

    The final grade in the course will depend on the students' individual assignment and exam grades.

ASSIGNMENTS:

Assignments and exams in the course are designed to increase, practice, demonstrate, and evaluate three key types of learning in relation to Systems Design, Implementation, and Maintenance: (1) knowledge, (2) skills, and (3) abilities.

- Assignments designed to increase a student's *knowledge* include In-Class, Reading, and Issues Assignments.
- Assignments designed to increase a student's *skills* include In-Class and Skills Assignments.
- Assignments designed to increase a student's *abilities* include Project Assignments and Exams.
- Exams are designed to give the opportunity for students to demonstrate, and be evaluated on, their Systems Design, Implementation, and Maintenance Knowledge, Skills, and Abilities. The types of quizzes/exams in this course include (a) multiple choice-short answer, (b) projects, and (c) standardized ISA certification exam.

The actual number of assignments and the dates the assignments depend on the progress of the class during the semester. **All due dates will be announced in class and posted on blackboard. Please pay attention in class and review Blackboard regularly.**

TENTATIVE SEMESTER SCHEDULE:

(Subject to Change)

Week	Chapters Covered
1: Jan 11	Syllabus, Mgt Sys Model
2: Jan 16 & 18	Review of Planning & Analysis Phases, Ch 9
3: Jan 23 & 25	Planning & Analysis Project Due, Ch 10
4: Jan 30 & Feb 1	11
5: Feb 6 & 8	Class & Data Project Due, Exam 1
6: Feb 13 & 15	12
7: Feb 20 & 22	12
8: Feb 27 & Mar 1	HCI Project Due, Exam 2, Ch 13
9: Mar 6 & 8	13
10: Mar 13 & 15	Physical Architecture Project Due, Exam 3, Ch 14
11: Mar 20 & 22	14
12: Mar 27 & 29	15
13: April 3 & 5	Maintenance
14: April 10 & 12	Installation & Maintenance Project Due, Exam 4, As Needed
15: April 17	As Needed
16: April 24, 12-3pm	ISA Exam & Final Project Due

FINAL EXAM & PROJECT:

Our Final Exam Time is scheduled for Thursday, April 24th from 12 to 3pm.

- The ISA Final Exam may be scheduled for another time, such as a Saturday, or we may use the final exam time to take the ISA Final Exam – this will be determines later.but 10am will be the final time to turn in your Final Project. If a specific class conflicts with the ISA Final Exam date & time, please tell the instructor.

- The Final Project Must be Completed before 3pm on Thursday, April 24th. **There will be no late projects accepted.** Only in extreme cases, with a doctors note or similar evidence stating you cannot complete the project on time, will someone be allowed to turn the Final Project in later than this time. Please plan your work ahead of time – your final project will not be able to be completed in a day if left to the last minute.

SUBMITTING ASSIGNMENTS: All assignments must be submitted in paper within the first 10 minutes of class on the date they are due. ***Only paper copies of the assignments will be graded.***

- You are also required to submit an electronic copy of assignments using the DIGITAL DROPBOX on Blackboard on the day the assignment is due. I will not accept emailed assignments or electronically submitted assignments as either on-time or late.
- If your assignment is not turned in within the first 10 minutes of class but are turned in the same day will be penalized 50%. Papers turned in the next day or later will be given a zero and can't be redone. However, we will grade the assignment for feedback if you desire.
- No excuses will be accepted for late assignments without external evidence, such as a doctor's note saying you were too sick to complete the assignment on time. The network being down or the printer not being available in class or in the lab is NOT considered a good excuse unless the quiz must be completed online. Please plan ahead, print the assignment at home or earlier in the day, and do not leave the printing of the assignment to the last minute just before it is due.

REDOs: I allow students to REDO any assignments except Quizzes, Exams, and Final Projects. I will not erase a poor grade, but by REDO-ing portions of assignments that you did not do correctly will give you an additional 50% of the possible points for the portion of the assignment that was corrected. For example, If you got 2 of 4 points on a problem and you redid the problem, you would get an additional point (thus 3 of 4 possible points). In this way, the student can help offset the full effects of poor grades on assignments. ***You will only be allowed to REDO assignments if you have turned in the original assignment on-time.*** Late assignments are may not be redone.

GRADING of ASSIGNMENTS:

My approach to grading is designed to mimic, as much as possible, evaluations of the performance you will experience when working in the business world. In the real-world, points or percentages are not assigned by your bosses when you turn in an assignment. In the real world, you will be evaluated on:

(1) **Meeting the Criteria Asked for** – Whether you accomplished the task criteria that were assigned.
(2) **The quality of your work** – How well you answers the questions.
(3) **The Format of your Document** - Whether you formatted your documents as assigned/asked.

If you do not meet the criteria or do not do quality work, in the real-world you are usually asked to **REDO** the assignment. Therefore, I give students the opportunity to redo assignments that they don't like their grade.

Nevertheless, the university requires that faculty create a way to delineate different grades for each student. Therefore, problem, question, or criteria will receive a multiple of 4 points representing the following evaluation:

- A **PLUS (+)** means you both met the criteria being evaluated and you met that criteria in a high quality way. This is equivalent to an "A" grade (4.0) on that specific problem, question, or criteria.
- A **CHECK (√)** means you satisfactorily met the criteria. Quality was good, but could have been better. This is equivalent to an "B" grade (3.0) on that specific problem, question, or criteria.
- A **MINUS (-)** means you attempted but did not meet the criteria expected. As a result, the quality was also low. This is equivalent to an "C" grade (2.0) on that specific problem, question, or criteria. (REDO-ing the specific criteria that received a ZERO is recommended.)
- A **ZERO (0)** means you either did not meet the criteria at all, or you did not attempt to meet the criteria requested. This is equivalent to an "F" grade (0.0) on that specific problem, question, or criteria. (REDO-ing the specific criteria that received a ZERO is recommended.)

EVALUATION:

The total points you receive on an assignment is a total of your points you receive on each criteria of the assignment. Your total grade for the class will be determined by weighting all the assignments of your grades different types of assignments adjusted for the weightings described below – you also qualify for a minimum final grade based on the ISA Final Exam score.

Final grades in the course will be determined approximately 35% assignments, 30% by mid-term exams & quizzes, Final Report (20%) & ISA Final Exam Score (15%). The final grades are assigned based on the following grade point average for the semester:

A 93-100% / 3.7-4.0	B+ 87-90% / 3.3-3.5	C+ 77-80% / 2.5-2.7	D Below 70% / 1.7
A- 90-93% / 3.5-3.7	B 83-87% / 3.0-3.3	C 73-77% / 2.0-2.5	F Below 60% / 1.0
	B- 80-83% / 2.7-3.0	C- 70-73% / 1.7-2.0	

In addition to your ISA Final Exam score being incorporated into your final grade, **you must pass Parts 1 & 2 of the ISA Final Exam to qualify for a minimum final grade in the class**:

- 60% to be considered for an A.
- 50% to be considered for a B.
- 40% to be considered for a C.
- Below a 40% on the ISA, students will fail the course and retake the course.

The final grade in the course will depend on the students' grades on coursework throughout the semester as well as the grade you qualified for on the ISA Exam. For example, it is possible that a student to receive an A- on all your coursework, but his of her ISA Exam score may be only a 45 qualifying for a final grade of only a C grade – Therefore, the final grade in the class the student would receive would be a C+.

C- or D Grades will be considered a failing grade: You must retake the class if you score less than a 2.0 grade average in this class. This class is an important foundation class of the IS major and for IS work in the real world. Therefore, you will have to retake the course if your final grade is less than 2.0.

Incomplete Grades: In deciding to give an incomplete grade, the policy of the university will be strictly enforced. This means that an incomplete will only be given in rare and extreme circumstances that are out of control of the students and that does not permit the student to complete the work of the course. This also means that a student signing up for "too many" courses or having "too much work" in other courses to successfully complete this course will not be considered a reasonable justification for requesting an incomplete. This also means that "forgetting" to register for a required course for graduation that then makes it impossible to graduate without adding the course as an independent study course will also not be considered for an incomplete grade. Students are expected to know their limitations, capabilities, and course requirements, and be responsible for either performing will enough to graduate or stay in school long enough to fulfill the requirements to graduate honorably.

Unofficial Withdrawals & Failing Grades: Students who register to take the course and do not officially withdraw from the course, yet fail to complete the course will be given an unofficial withdrawal (not a failing grade). Failing grades will only be given for students who complete the course.

PREVENTING SEXUAL HARASSMENT:

Title IX of the education amendments of 1972 prohibits sex discrimination against any participant in an educational program or activity that receives federal funds, including Federal loans and grants. Title IX also covers student-to-student sexual harassment. If you encounter unlawful sexual harassment or gender-based discrimination, please contact the Human Resource Services at 780-8875 (24 hours).

STUDENTS WITH DISABILITIES:

Brigham Young University-Hawaii is committed to providing a working and learning atmosphere, with reasonably accommodates qualified persons with disabilities. If you have any disability that may impair your ability to complete this course successfully, please contact The Students With Special Needs Coordinator. Reasonable academic accommodations are reviewed for all students who have qualified documented disabilities. If you need assistance or if you feel you have been unlawfully discriminated against on the basis of disability, you may seek resolution through established grievance policy and procedures. You should contact Human Resources Services.