

Syllabus - CIS 405 (formerly IS 409): Systems Development (System Design, Implementation, and Maintenance)

Section 1 – Fall Semester 2007 – GCB 150
TTH 12:30 pm – 1:50 pm – Course Credits: 3

Instructor: Bret Swan

Office: GCB 126

Office Phone: 675-3473

Email: swanb@byuh.edu

Office Hours: See Blackboard, or email for appointment

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.

PREREQUISITES:

1. Pass the following courses with a minimum of a “C” grade in each course:
 - a. IS307 – Systems Analysis & Design
 - b. IS350 – Database
 - c. IS330 – Management Information Systems.
2. Before taking CIS 405, students must pass IS400, which includes passing ISA Exam Parts 1 & 2:
 - a. with a minimum of 40% on either part of the exam, and
 - b. with an overall minimum score of 45%.

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.
- ❑ GCB 150 Software including Microsoft Office, Project, and Visio.

COURSE OUTCOMES:

3. 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.
4. Describe the differences, advantages, and disadvantages between UML diagrams and traditional approaches to systems analysis and design diagramming.
5. Describe the differences, advantages, and disadvantages between object-oriented and traditional approaches to systems analysis and design.
6. Demonstrate knowledge the layers of design and how they apply to specific projects.
7. 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.
8. Demonstrate skills in analysis, design, and development of application software using a programming environment.
9. 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.
10. Demonstrate the ability to develop program tests and system tests.
11. Describe understand the different programming environments available for business application development.
12. Demonstrate a functional understanding of proactive principled behavior and time management
13. 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.
14. Demonstrate appropriate goal setting and alignment of team activities with project obligations and reporting requirements.
15. 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.
16. Describe and explain life cycle concepts, and apply them to the course project.
17. Demonstrate and practice of skills necessary to produce life-long learning.
18. Present and explain the evolving leadership role of information management in organizations.
19. Develop and describe in-depth how information technology (IT) supports users.
20. Practice development of appropriate systems design, implementation, and maintenance modeling using UML 2.0.

PREREQUISITES FOR TAKING CIS 405:

CIS 305 is the first course in a two-course sequence. CIS 405 (Systems Development) is the second course in this sequence and will cover the second half of the same book used in CIS 305. You must pass CIS 305 to take CIS 405. To Register for CIS 405 students must:

1. Pass the following courses with a minimum of a “C” grade in each course:
 - a. CIS 305 – Systems Analysis & Design
 - b. IS 350 – Database
 - c. IS 330 – Management Information Systems
2. Must pass IS 400, which includes passing ISA Exam Parts 1 & 2:
 - d. With a minimum of 40% on each part of the exam, and
 - e. With an overall minimum score of 45%.

**TENTATIVE SEMESTER SCHEDULE:
(Subject to Change)**

| Week | Chapters Covered |
|--------------------|--|
| 1: Jan 10 | Syllabus, Mgt Sys Model |
| 2: Jan 15 & 19 | Review of Planning & Analysis Phases, Ch 9 |
| 3: Jan 22 & 26 | Planning & Analysis Project Due, Ch 10 |
| 4: Jan 29 & 31 | 11 |
| 5: Feb 5 & 7 | Class & Data Project Due, Exam 1 |
| 6: Feb 5 & 7 | 12 |
| 7: Feb 12 & 14 | 12 |
| 8: Feb 19 & 21 | HCI Project Due, Exam 2, Ch 13 |
| 9: Feb 26 & 28 | 13 |
| 10: Mar 4 & 6 | Physical Architecture Project Due, Exam 3, Ch 14 |
| 11: Mar 11 & 13 | 14 |
| 12: Mar 18 & 20 | 15 |
| 13: Mar 25 & 27 | Maintenance |
| 14: April 1 & 3 | Installation & Maintenance Project Due, Exam 4, As Needed |
| 15: April 8 & 10 | As Needed |
| 16: April 15 | As Needed |
| 17: April 22, 12pm | Final Project Due |

ASSIGNMENTS:

The final grade in the course will depend on the students’ individual assignment and exam grades. 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, Issues Assignments as well as Quizzes & Exams.
- Assignments designed to increase a student’s *skills* include In-Class and Skills Assignments.
- Assignments designed to increase a student’s *abilities* include Practice and Project Assignments.
- 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.**

FINAL EXAM & SEMESTER PROJECT:

Our Final Exam Time is scheduled for Tuesday, April 22nd from 12-3pm.

- **The Final Project Must be Completed before 12pm on Tuesday, April 22nd. 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 in the Final Project at a later 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.
- This time may be used for you to take Parts 1 & 2 of the ISA Exam – this will be determined later. If a specific class conflicts with the ISA Final Exam date & time, please tell the instructor.
- Your semester project grade will also be adjusted by a multiplier (ranging from 0.0-1.0+) that is determined by a ratings and detailed feedback to me about your cooperation, participation, and how fairly you participated in creating project deliverables compared to other team members. on the team,

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 certain assignments if you have turned in the original assignment on-time.*** Quizzes, Exams, and 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. 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 | |

Final grades in the course will be determined approximately 40% assignments, 25% by mid-term exams & quizzes, 35% on the Semester Project Deliverables. I reserve the right to make most or all of the assignments relate to your Final Semester Project (including Documentation, Models, Working Prototype, Formatting, and Team member evaluations (if a team project is assigned)). This approach would in essence make your entire final grade determined by the semester project deliverables.

Team Participation Grade Adjustment: Your semester Project grade will also be adjusted by a multiplier (ranging from 0.0-1.0+) that is determined by a ratings and detailed feedback to me about your cooperation, participation, and how fairly you participated in creating project deliverables compared to other team members. on the team,

D Grades will be considered a failing grade: You must retake the class if you score less than a 70% 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 a C-.

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 well 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.

ACADEMIC HONESTY:

By attending this course and this university you have agreed to live the honor code yourself and expect the same of others (See <http://w2.byuh.edu/studentlife/honorcode/docs/ces.htm#1>). Violations of Academic Honesty, the Dress and Grooming Standards, Disruptive Behavior Policy of this university will not be tolerated in this course. Violators will be subject to the appropriate discipline and possibly receive a UW or Failing grade in 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 Service at **780-8875** (24 hours).

STUDENTS WITH DISABILITIES:

Brigham Young University-Hawai'i is committed to providing a working and learning atmosphere, which reasonably accommodates qualified person with disabilities. If you have any disability that may impair your ability to complete this course successfully, please contact the students with Special Need **Counselor Leilani Auna** at **293-3999 or 293-3518**. 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 the Human Resource Services at **780-8875**.