

**SYS 390 INFORMATION SYSTEM ANALYSIS**  
**Fall '07**

**Professor:** Felix Aguilar

**Overview:** Development of knowledge and skills needed to do definition, analysis, and conceptual design of an information system project using a model-based system development methodology. Information gathering, data and process modeling, and developing system requirements using a business event methodology are emphasized. A major project is begun in this course and completed in SYS 394.

**Specific Goals** To be able to:

- explain and apply the four absolutes of quality management to information systems.
- explain what a system development methodology is
- explain how project success depends on intelligent use of a system development methodology.
- explain the importance of knowing the business to successful systems analysis
- define business process reengineering and how to apply
- explain the role of information technology in business process reengineering.
- use Kepner-Tregoe decision analysis
- use Kepner-Tregoe situation appraisal
- write well-posed requirements
- explain how system requirements and quality are related.
- use a system response table and use scenarios to decompose a system and define project scope
- develop and use a data model
- evaluate the return on investment of a project to assure real business value.
- implement primary and foreign key constraints in a relational database.
- compose SQL queries using joins, nested queries, set-comparison operators, aggregate operators, and "group-by" functionality.

**Business Case Study:** The emphasis in this course is to learn system analysis by doing, and a business case study will be the primary vehicle for doing so. A project will be begun mid semester. A definition/analysis phase proposal including a logical design will be the deliverable. In the spring semester, the logical design will be translated into a physical design and the system built. The project will be a team effort.

**Required Reading:**

*System Analysis and Design Methods*, 7<sup>th</sup> Edition, Whitten , Bentley, & Dittman, McGraw-Hill Irwin.

*Reengineering The Corporation: A manifesto for business revolution*, Hammer & Champy, HarperCollins

*The New Rational Manager*, Kepner & Tregoe, Princeton Research Press

**Office:** Nussbaum Science Center, Room 008A (basement)

**Office Hours:**

- MTWThF: 4:15 – 5:30 pm.
- Or by appointment. Schedule with Beth Holloway.
- If it's important to you, it's important to me. Don't hesitate to stop by during office hours or set up an appointment.

**Attendance:**

- Come! Attendance will be taken at each class.
- See the university policy on attendance (*Taylor University Catalog*, p. 28, online at [http://www.taylor.edu/sharedFiles/pdf/reg\\_catalog\\_05-06\\_regulations.pdf](http://www.taylor.edu/sharedFiles/pdf/reg_catalog_05-06_regulations.pdf))
- Homework and tests can be made up only if the absence is excusable and prior alternate arrangements have been made, if possible.

**Laptop Computers:**

My policy is no open laptop computers

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**Evaluation:**

- Based on tests and final exam, homework, attendance, and class participation.
- Components: homework (15%), two tests (20% each), project proposal (25%), and final exam (20%).
- Evaluation per the catalog: A(>94), A-(>89), B+(>86), B(>82), B-(>79), C+(>76), C(>72), C-(>69), D+(>66), D(>62), D-(>59)
- You will never receive a grade lower than what you earn strictly by the numbers. I won't take off for poor attendance or participation.
- However, outstanding attendance and class participation are necessary in order for me to consider extending grace when I determine your final course grade. (Unlike our Lord's grace, mine isn't free!) But it is my privilege to award a higher grade than what you earn strictly by the numbers. (See Matt 20: 1-15.)

**Blackboard (Bb):**

I use Bb to post assignments, class notes, solutions to some problems, and to record your homework grades, test grades and attendance.

Regarding attendance, I record absences in Bb. An entry of "1" for a date indicates an unexcused absence; "0", an excused absence; " " (no entry), present.

Check Bb frequently to assure yourself that I have correctly entered the scores you have earned. You have two weeks after grade entry to correct any errors. You will have to use the formula in the syllabus to compute your grade as the semester progresses. I do not use the grade weighting and computation feature of Bb.

**Academic Dishonesty:**

- Heaven forbid!
- See TU and CSS Dept cheating policies on ([http://www.css.taylor.edu/student/policy\\_cheating/](http://www.css.taylor.edu/student/policy_cheating/))
- Re homework: I assign it to help you learn by application and practice. It is perfectly OK to coach a classmate on solving a specific problem. Collaboration is also fine. The result is learning.
- However, here are two examples of dishonest collaboration: (i) Simply copying another's work without any personal effort toward the solution and (ii) Splitting assignments (e.g., "You do the even-numbered problems, I'll do the odd, and we'll combine.")

**Academic Resources:**

- The **Academic Enrichment Center** provides individualized academic skills help (e.g. test preparation, note taking, planning, etc.). Contact Dr. Scott Gaier, [scgaier@taylor.edu](mailto:scgaier@taylor.edu) or 998-5391.
- **Peer tutoring services** provides free help to students in most content areas. For further information contact Cheryl Ziegler, [chziegler@taylor.edu](mailto:chziegler@taylor.edu), 998-4609, or visit the tutoring link in the portal (select *Academics Tab*, select *Quick Links*, select *Academic Enrichment Tutoring*).
- **Students with disabilities support services** provides a variety of services for students who have physical or other disabilities. Contact Dr. Edwin Welch, [edwelch@taylor.edu](mailto:edwelch@taylor.edu) or 998-5523.
- The **Writing Center** provides personalized writing assistance to students in any course. Contact Dr. Barb Bird, [brbird@taylor.edu](mailto:brbird@taylor.edu) or 998-5526.
- The **Zondervan Library** will help students in identifying, obtaining, and evaluating information and resources for papers, projects, and other academic work. Don't waste time being frustrated. **We can help you find what you need!** Librarians can be reached via: Email ([zonlib@taylor.edu](mailto:zonlib@taylor.edu)), Instant Messaging (AIM: ZondervanLibrary, Yahoo! Messenger: ZondervanLibrary, Google Talk: [ZondervanLibrary@gmail.com](mailto:ZondervanLibrary@gmail.com), MSN Messenger: [ZondervanLibrary@hotmail.com](mailto:ZondervanLibrary@hotmail.com)), Phone (x8-HELP, or x8-4357), In Person at the Reference desk (Noon to 5pm, 6pm to 10pm, Monday through Thursdays; Noon to 5pm on Fridays; 9am to 5pm most Saturdays during the school year), or by appointment for consultation especially for longer projects.

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| <b>Week</b> | <b>Class</b> | <b>Topics</b>                                                         | <b>Reading</b>           |
|-------------|--------------|-----------------------------------------------------------------------|--------------------------|
| Aug 27      |              | <b>No class: New Student Orientation</b>                              |                          |
|             | 1            | Introduction and Objectives                                           | Text: Chap 1             |
|             | 2            | Systems and Analysts                                                  |                          |
| Sep 3       |              | <b>No class: Labor day</b>                                            |                          |
|             | 3            | Quality: What is it?                                                  | Video: The Quality Man   |
|             | 4            | Quality: The Four Absolutes                                           | Text: Pp 21-22           |
| Sep 10      | 5            | TQM: Total Quality Management                                         | TNRM: Chap 1 & 4         |
|             | 6            | Tools for Rational Analyst: Decision Analysis                         |                          |
|             | 7            | Decision Analysis at State Farm                                       | Text: Chap 3             |
| Sep 17      | 8            | SDM: What and Why                                                     | TNRM: Chap 7             |
|             | 9            | Tools for Rational Analyst: Situation Appraisal                       |                          |
|             | 10           | Situation Appraisal                                                   | RTC: Prologue, Chap 1    |
| Sep 24      | 11           | Business Process Reengineering                                        | RTC: Chaps 2 & 3         |
|             | 12           | Business Process Reengineering                                        | RTC: Chaps 4 & 5         |
|             | 13           | ERP Systems                                                           | RTC: Chap 7              |
| Oct 1       | 14           | <b>Project Business Case Introduction &amp; Proposal Requirements</b> | Text: Chap 5, pp 185-190 |
|             | 15           | Requirements Discovery: Good requirements & Event-Driven Modeling     | Text: Chap 7             |
|             | 16           | Requirements Discovery: Event-Driven Modeling & Use cases             |                          |
| Oct 8       | 17           | Requirements Discovery: Event-Driven Modeling & Use cases             |                          |
|             | 18           | Requirements Discovery: Data Modeling                                 | Text: Chap 8             |
|             | 19           | Data modeling: Entities, Attributes, and ERD's                        |                          |
| Oct 15      | 20           | <b>Project Workshop: Info Gathering</b>                               |                          |
|             | 21           | More data modeling                                                    |                          |
|             | 22           | More data modeling                                                    |                          |
| Oct 22      | 23           | Review                                                                |                          |
|             | 24           | <b>Test 1</b>                                                         |                          |
|             |              | <b>No class: Fall Break</b>                                           |                          |
| Oct 29      | 25           | <b>Project Workshop: Info Gathering</b>                               |                          |
|             | 26           | Relational Database Concepts                                          | Text: Chap 9             |
|             | 27           | Query language: SQL                                                   |                          |
| Nov 5       | 28           | Query language: SQL                                                   |                          |
|             | 29           | Query language: SQL                                                   |                          |
|             | 30           | Query language: SQL                                                   | Text: Chap 11            |
| Nov 12      | 31           | Proposal: Feasibility Analysis                                        |                          |
|             | 32           | Feasibility Analysis                                                  | TNRM: Chap 6             |
|             | 33           | Tools for Rational System Analyst: Potential Problem Analysis         |                          |
| Nov 19      | 34           | <b>Project Workshop: Info Gathering</b>                               |                          |
|             |              | <b>No class: Thanksgiving</b>                                         |                          |
|             |              | <b>No class: Thanksgiving</b>                                         |                          |
| Nov 26      | 35           | Review                                                                |                          |
|             | 36           | <b>Test 2</b>                                                         |                          |
|             | 37           | <b>Project Workshop</b>                                               |                          |
| Dec 3       | 38           | <b>No class: Proposal Presentations</b>                               |                          |
|             | 39           | <b>No class: Proposal Presentations</b>                               |                          |
|             | 40           | <b>No class: Proposal Presentations</b>                               |                          |
| Dec 10      |              | <b>FINAL EXAM TBD</b>                                                 |                          |