Syllabus
CS 682: Systems Analysis and Design Methods
Fall 2018
Sections D1 / A1

Text:
System Analysis & Design W/UML 5th edition by Dennis, Wixom & Tegarden,
Wiley & Co. Publishers. ISBN-9781119030263

Instructor:
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Availability:
>   Normally I am available during business hours at 617-283-6680 (cell). If
>   not, you can leave a voice message or contact me via email.

Schedule:
>   See separate document on the Blackboard Learn Web Site.
>   (https://blackboardlearn.bu.edu)

Location:
>   KCB - 102

Focus:
>   The focus of the class will be to interactively discuss contemporary issues and
>   methods of systems analysis and design. The methodology will include lecture,
>   group discussion, minicase studies, and presentation of your group project. The
>   assumption is that each student brings professional experience and background
>   which contributes to the analysis and discussion of the material.

Course Objectives:
Successful contemporary information systems analysis, design, implementation and
evaluation are a complex endeavor. It requires not only technical understanding,
business acumen, and knowledge of systems analysis theory and methods, but also
the ability to be an effective change agent within multifaceted organizations.

At the end of this course, students will have demonstrated:

1) Understanding of the basic building blocks that encompass the systems analysis
    and design effort, including the systems development life cycle, systems planning
    techniques, and the precise modeling of data, processes and networks.
2) Ability to evaluate and communicate technical information in the context of a
    formal presentation targeted to a management audience.

Philosophy:
>   Based on the assumption that the majority of the attendees of this class are
>   balancing a professional career, personal life and educational commitment, I have
>   tried to structure the workload to minimize work outside the classroom.

However, each student will be required to read the chapter assigned, be prepared to discuss the minicases contained therein and complete the group project assigned. In addition, each student can gain additional, optional credit by submitting written answers to the study questions assigned each week. There will be a total of approximately 100 questions assigned during the semester and around 1/10 of a point will be earned for each correct answer submitted. Thus each student can increase his / her final grade by one full letter. (i.e. a C to a B, a B to an A etc.)

Class Structure:

The classes will be divided into three segments – lecture, interactive discussion of the minicases and presentation of group projects.

Academic Conduct Code:

Cheating and plagiarism will not be tolerated in any Metropolitan College course. They will result in no credit for the assignment or examination and may lead to disciplinary actions. Please take the time to review the Student Conduct Code:

http://www.bu.edu/met/for-students/met-policies-procedures-resources/academic-conduct-code/

Note: This should not be understood as a discouragement for discussing the material or your particular approach to a problem with other students in the class. On the contrary – you should share your thoughts, questions and solutions. When you work in a group, you will be expected to come up with more than one and highly original solutions rather than the same mistakes.

Absences / Missed Assignments:

Class Participation accounts for 5% of the overall grade. Students who miss a class will not receive participation points for that class. If the absence is on an exam night, the exam points will be lost unless a make up exam has been scheduled in advance. Since we will review all homework assignments on the day they are due, no late assignments will be accepted.

Grading Policy:

The class grade will be based on the following formula:

- ✓ Class Participation……………………..…...…...05 Points
- ✓ Mid Term Exam………………………………..25 Points
- ✓ Final Exam……………………….…………….…35 Points
- ✓ Business Requirements Presentation / Paper…...10 Points
- ✓ Project Proposal Presentation / Paper…………..15 Points
- ✓ Presentations (2 at 5 Points each)...……..………10 Points
- ✓ Study Questions (Optional)…………………….10 Points

Grading: Class participation, the mid term exam and final exam will represent 60% of your grade. Your two papers will represent 25% of your grade and the presentation will be worth 10% for a total of 100% or 100 points. The answers to your weekly questions will be corrected and returned to you and will have an extra credit impact only. If all your answers are correct, your grade can increase by one full letter. If all your answers are incorrect, your grade score remains

unaffected. If your answers are somewhere in between, your grade score will increase accordingly. All optional written homework assignments are to be handed in, in hard copy, before the beginning of class on the day there are due. No email or electronic submissions will be graded.

<u>Grading scale</u>: Based on a 100 point scale

%	Grade	%	Grade
95+	A	76-78	C+
91-94	A-	73-75	C
87-90	B+	70-72	C-
83-86	B	67-69	D+
79-82	B-	65-66	D
		<65	F.

<u>Grade Definition:</u>

A= Excellent performance. Work is exemplary and worthy of emulation by others. Student is in full attendance and constructively contributes to the learning environment.

B= Above average performance. All assignments are complete and exhibit a complete understanding and an ability to apply concepts.

C= Average performance. Accomplishes only the minimum requirements. Oral and written communication is at an acceptable level for a graduate student.

D= Demonstrates understanding at the most rudimentary level. Work is minimally passing.

F= Work is not passing, characterized by incompleteness, lateness, unsatisfactory demonstration of understanding and application.

<u>Assignments:</u>

Class Preparation:

1) You will be expected to read the appropriate chapter of the text and be prepared to discuss its associated minicases prior to attending class.
2) After you read the appropriate chapter, you should review the study questions on the web site that are associated with that chapter.

Optional:

1) Each class member may submit answers to the 5 to 15 true/false, multiple-choice, fill-in-the-blanks questions or special project assigned each week. Hard copy versions of all submissions must be handed in before the class that they are due.

Project:
Each student will select a business process, situation or workflow that requires automation, reengineering or other computerized system solution.

Your selection should be something you are familiar with and reflective of an end user scenario vs. an OEM or developing a system for resale. Or vs. a startup / new venture with no history of expenses or revenues. Technology upgrades that do not include a great deal of input from all its users will also not be suitable. The project requires your team to be either employees of or consultants to the enterprise that will benefit from the project and the project owner is in place before your first presentation. In addition, your team has been notified that your project is competing with other enterprise projects for the limited funds available.

1) For Week 3 each team will submit a one paragraph written description of their selection
2) **Your first presentation will consist of an oral (Power Point presentation) and written report that typically terminates the Analysis phase of the Systems Development Life Cycle (SDLC). On the date assigned for your first presentation, each team will hand in a printed hard copy of their Power Point Slides and of a 1-3 page (350 words per page) executive summary addressed to their supervisor that states the business problem to be solved and identifies the purpose of the project. Other requirements include:**
    a. **Each presentation should take no less than forty (40) minutes and no more than sixty (60) minutes plus be prepared for 10 minutes of questions and discussion.**
    b. **The project requires your team to be either employees of or consultants to the enterprise that will benefit from the project**
    c. **The project owner is in place before your first presentation.**
    d. **Your team has been notified that your project is competing with other enterprise projects for the limited funds available."**
    e. **A list the constraints**
    f. **The assumptions used in defining the project.**
    g. **A minimum of three (3) logical models**
    h. **The incorporation of at least one fact finding technique**
    i. **On the day of the first presentation, each student will submit a printed hard copy of their presentation (with presentation notes) and a copy of their 1 -3 page paper.**
    j. **An end user scenario vs. OEM or start up / new venture**
    k. **Each team member must present a equal portion of the presentation**
    l. **No pricing or economic feasibility analysis except in a very general "estimated target" fashion is required for this presentation.**

Besides a list of project requirements, you may want to use process flow charts, procedures, or policy statements to articulate your business solution. This paper will focus on user inputs - how it was gathered, who you selected to solicit input from and what the results were etc. You must indicate how your project complements your enterprise's overall objectives and states the competitive advantage your project will provide. This paper will not include any specific hardware, software or pricing recommendations. If clarity requires it, you can include generic hardware and / or software and estimated "ball park" pricing. Other clarification notes for this assignment:
    m. The feasibility analysis should not be "solution" oriented but rather requirements focused as outlined in the text.

n. Until all the requirements are collected & understood, a decision matrix with scores & weights is premature. This will be addressed in the final presentation not in the initial presentation.

o. Include the project's risks, scope. Objectives, stakeholders, etc.

p. Remember requirements are logical, business centric and should be collected from the target users that would account for the "project's benefits / ROI". Also, they should be generated using terminology stakeholders understand.

q. The source of your requirements should be detailed.

r. Insure any use cases you include are stated the way a user would describe his / her scenario of the way he /she want to interact with the system

s. Process flows should include any changes made to the existing working procedures / environment.

t. When the assignment mentions OO / UML, it is not referring to code but rather their use to generate logical requirements.

u. List all the constraints imposed by the system owner

v. An "acid" test of your presentation is reviewing it to inure it business centric, logical in nature, stakeholder requirements focused & void of either technology or a solution. (Paper #1 – Business Requirements Paper)

3) Each team will present (using *Microsoft PowerPoint* or equivalent) their Business Requirements (Paper #1) to the class on a date assigned to you. On the day of the first presentation, each student will submit a printed hard copy of their presentation (with presentation notes) and a copy of their 1 -3 page paper.

4) Your final presentation will consist of an oral (Power Point presentation) and written report that typically terminates the Design phase of the Systems Development Life Cycle (SDLC). On the date assigned for your second presentation, each team will each team will hand in a printed hard copy of their Power Point Slides and of a 5-7 page paper (350 words per page) summarizing the Project Proposal (Paper #2) for a corporate review committee. This proposal will restate your executive summary (which may be altered based on management feedback) and will also include a detailed feasibility analysis matrix with a minimum of 3 candidates. It will also include possible databases, sample inputs, sample outputs and any models for the information technology solution he / she chose to solve the business problem you selected earlier.

Other presentation & paper requirements include:
   a. **Each presentation should take no less than forty (40) minutes and no more than sixty (60) minutes plus be prepared for 10 minutes of questions and discussion.**
   b. **The specific hardware & software being evaluated / chosen**
   c. **A detained feasibility analysis**
   d. **A completed candidate matrix and articulation of a scoring / weighting rationale that ties back to the requirement you provided in your first presentation**
   e. **Reasonably estimated costs of the solution you selected**

    f. **A substantive ROI analysis that incorporates the time value of money, estimated prices, cost / benefits analysis and the reasons for selecting the proposed system to be built / purchased**

    g. **A complete disclosure of all benefits with a detailed description of how they were monetized. Specifically all cost reductions (i.e. staff reductions, increased productivity, more accuracy, etc.) must be explained thoroughly as well as all revenue increases (i.e. better decision making, increased customer loyalty, staff redeployment, more sales time, etc.)**

    h. **In addition, the paper will explain why the proposed system favorably competes for funding among the other alternatives that exist in your organization.**

    i. **Each team member must present a equal portion of the presentation**

5) Once again, each team will present (using *Microsoft PowerPoint* or equivalent) and on the day of the presentation, each team will submit a printed hard copy of their presentation (with presentation notes) and their 5 – 7 page paper. (Paper #2 – Project Proposal)

6) As stated above, each class member will make two presentations. Your presentation should be a synopsis of the business situation you addressed, any alternatives you considered, a feasibility analysis, the business requirements resolved with your solution, the hardware, database and software recommended, sample input and output screens, the constraints you accepted, the assumptions you made, a cost/benefit analysis and an ROI. The fluid nature of technology today dictates that there is no single "*right*" answer to your project, and you should not expect there to be one. You should be prepared to defend your presentation and respond intelligently to alternate solutions and ideas suggested by your classmates.