

INFORMATION TECHNOLOGY PROJECT MANAGEMENT

ISQS 4350 – Sections 001 (12:30-1:50pm); 002 (2:00-3:20pm)
Fall 2017
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Instructor: Dr. Burns
Office: BA E306
Off Hrs: By appointment

Texts: Larson, Erik and Clifford Gray, *Project Management: The Managerial Process, Sixth Edition*, McGraw-Hill Education, 2014.

Burns, James, *Project Management Processes and Practice: Applications to Information Technology*, 2017. (These materials will be provided for you.)

Welcome to a project management course for IT/MIS majors. This course is in our curriculum because your future employers said it must be here! In their view this course is an absolute must. The course will endeavor to accomplish two goals. First, the course covers IT project management in total; second the course will discuss contemporary problems in information systems as "projects."

This course will cover the following contemporary topics:

0. Project management (PM) basics
1. Relationship of PM to system and enterprise integration
2. Project lifecycle and process groups
3. Proposal writing
4. Models of the software development processes (Waterfall, Spiral, Agile, Scrum, etc.)
5. Capability maturity model (CMM) and Capability maturity model integration (CMMI)
6. Continuous and innovative process improvement and its relation to IT projects
7. Project scope, time, cost, quality, risk, human resource, communications, procurement and stakeholder management
8. Methodology for each major IT project type
9. Rapid application development methodologies as projects within information technology
10. Change management; coping with change, causality and complexity
11. Software quality assurance
12. Senge's systems thinking and Goldratt's thinking process
13. Agile and lean-agile software development
14. Software acceptance testing documentation

Blackboard: All course materials can be found at <http://blackboard.ttu.edu> or <http://ttu.blackboard.com>. Use your eraider username and password to log in.

Grading: Two exams and a FINAL will be administered. All exams will be mandatory. Make-up exams will be administered in my office only to students with excusable conflicts. Exams will take place in this classroom during the regular meeting time.

In addition to the exams, some assignments will be taken up. All exams and computer assignments will be graded on a basis of 0 to 100%. The letter grade breakdowns used in assigning all grades, including the final grade are:

A----- 90 - 100%	C----- 70 - 79%	F----- Below 60%
B----- 80 - 89%	D----- 60 - 69%	

Each exam and the FINAL will be worth 18%. The homework assignments will carry a total worth of 12%. A term project (discussed below) will be worth 18% plus 5% for the presentation. Even though projects will be done in teams, it will be necessary for all team members to present. **Class attendance/participation will be worth 11%.**

Attendance/Participation: Class attendance will be noted. The seat in which you sit on the second-class day will be "your seat" for the remainder of the semester. Late entrances and early exits to and from the classroom are distractions which disrupt the class. If you arrive later or if you must leave early, please make your entrance or departure as quiet and orderly as possible. Class attendance as well as the frequency and quality of your answers to questions posed by your instructor will comprise your class participation grade.

Reading: The reading assignments will enable you to work the problems with understanding and to comprehend the material covered in class. You are well advised to have read each assigned reading for the class period before coming to class.

Exams: The exams will test your ability to apply the solution techniques discussed in class. The exams will be prepared fresh so they will be unlike similar exams taken in the past, although they will be identical in style and format. The exams will test your general substantive understanding of the materials including definitions and concepts. Each exam will consist of multiple choice questions and discussion problems. Multiple choice questions may be used to lead you through a solution procedure. You are responsible to bring your own scantron sheets to each exam. You will turn-in the scantron sheet and the exam booklet once you have completed the exam.

Behavior and Class Civility: Students are expected to assist in maintaining a classroom environment that is conducive to learning. In order to assure that all students have an opportunity to gain from time spent in class, unless otherwise approved by the instructor, students are prohibited from using cellular phones or audible beepers, eating or drinking in class, making offensive remarks, reading newspapers, sleeping or engaging in any other form of distraction. Inappropriate behavior in the classroom shall result in, minimally, a request to leave class.

Academic Conduct: The Texas Tech policy for academic conduct (Student Affairs Handbook) applies to all students, at all times. Any student who violates the academic conduct policy will be subjected to the appropriate disciplinary sanctions (Student Affairs Handbook). Once your course grade has been determined, it is impossible to do extra work to improve the grade after the fact. After the end of the semester, do not ask me for the opportunity to do extra work.

Disabled Students: If, for any reason, you have a physical, visual, hearing or cognitive impairment that hinders your ability to write, see, hear or take exams, please advise the instructor of your condition, and provide a letter of verification from your doctor. He will make every effort to accommodate your situation as best as he can. You are also advised that you have certain rights as stated in Section 504 of the Rehabilitation Act of 1973 and described in the Student Affairs Handbook.

Homework: The homework is to be turned in individually, not in teams.

Term Project: The term project will involve application of the techniques discussed in class to a problem area of interest to you. All term project deliverables (pre-proposal, requirements doc, project plan, proposal, earned value analysis) will be accomplished in teams of size four, roughly. **Peer evaluations of your individual contributions to the term project and its deliverables will be required and applied to your individual term project grades.** For example, your group project grade could be

90, but your individual project grade could be a mere 60 because of the peer evaluations of your individual contribution. The term project is due on or before **December 5, 2017**. It must be written in the following format and should be double-spaced typewritten pages. You must execute at least three major phases of your project plan so that you can do the earned value analysis part of the project. Your project plan shall consist of not less than 60 tasks/steps/activities.

1. Title Page.
2. Executive Summary – a one-page brief of the project or case. This should identify who the stakeholders are, what their needs are, how those needs were resolved or accommodated by the proposed IT product.
3. FRONT MATTER consisting of the following subheadings: Description of the Problem/Opportunity, the Goal, the Success Criteria, Assumptions/Risks, Recommended Prescriptive Software Solution, Impediments/Obstacles Encountered, Current Status, and Lessons Learned. The FRONT MATTER should describe the project environment, to include cultural, political, social, legal, and other non-quantifiable factors that have a bearing on the managerial situation. The FRONT MATTER should describe the goal and the criteria by which success will be judged. Impediments and obstacles encountered along the way should be described here. Include here a statement of how much of the total project was actually completed, whether the project is currently on schedule and under budget, any problems encountered, as well as what happens from here. {Recall, that you are not required to complete the project, but only to plan it in its entirety. You should complete the early phases of the project, however, so that you have the experience of actually comparing, controlling and monitoring a project relative to its plan.} Sections 1, 2 and 3 should be roughly 8 or more pages in length, double-spaced and in eleven points of ARIAL type. The FRONT MATTER should be written last, just before the term project is turned in.
4. For the following documents, you must turn-in both the former graded version of the document and your newer updated one. It is very important that you make all the changes suggested in the earlier version that was graded. Your final project documents should be turned in bound, but not in a loose-leaf notebook.

Requirements Document – a description of the requirements for the prescriptive solution, due **9-21-2017**.

Project Plan – a project plan consisting of schedule (Work Breakdown Structure, and Gantt chart), cost, resources, assignments, exactly as described in the notes, due **10-31-2017**. You must have at least 60 tasks/steps/activities.

Proposal – a discussion of the specific problem addressed in the project or case and the proposed solution, and formatted exactly as described in the notes, due **11-9-2017**.

The formats for the Requirements Document, Proposal and Project Plan are discussed in Burns, Chapter 11.

Earned Value Analysis – a way to assess where the project is relative to budget and schedule. You can use Microsoft Project to assist you with this, due **11-21-2017**. Your earned value analysis report must, like all the other documents, appear twice in your final project submission.

All of the above must be revised and turned in with your term project final report, which is due on **12-5-2017**. A one-page description of the revisions applied to each project document is also required, placed after the FRONT MATTER in your final project report.

PROJECT GRADING AND EVALUATION: The project will be evaluated along the following dimensions.

1. *Originality* – is the basic application especially interesting or unusual, or is it a re-hash of a well-known textbook illustration?
2. *Analytical Approach* – was the appropriate model (or models) chosen and formulated, and was the analysis complete and accurate? How much validity can be attached to the results?
3. *Documentation* – were the data sources and other problem characteristics well-documented, and were appropriate literature sources referenced? Are the conclusions and recommendations well-articulated and supported?
4. *Quality of the Report* – is the report professionally done, in the correct format, and well-written? How much use is made of plots, charts, and other graphical presentations? Is the content clear, complete and correct?
5. *Correctness* – more than mere technical accuracy, does the project report describe why what was done was worth doing?
6. *Creativity* – is the project original, innovative and unusual, does it describe original work? **Was it worth doing?**
7. *Complexity* – what is the sophistication level of the work?
8. *Clarity* – what is the character and quality of the written document; is it clear what the author has done?
9. *Completeness* – to what extent does the project address its issue or problem in totality, thoroughness, holism?

PROJECT COMMENTS AND SUGGESTIONS: If done well, a project of this type is a tremendous learning experience. In the "real world" of business, industry, and public sector decision making, such undertakings are everyday occurrences at all managerial levels, and promotion to higher levels of managerial responsibility depends to a large extent on one's ability to identify, model, and solve problems, and to communicate the results in a well-written report.

The following "tips" may be helpful to you in identifying an appropriate project and successfully completing the assignment.

1. Try to identify a managerial problem in an environment familiar to you. Problems are all-pervasive in organizations, and few exist that cannot be simulated successfully.
2. Begin now to define your project. Most poor projects (both in academia and in the "real world") are the result of procrastination -- waiting until the last minute, and "throwing something together." I'll be happy to help you focus an idea you may have.
3. One possibility would be to perform a project management initiative on your design project that you did (or are currently doing) for ISQS 4349.

Topics of intense contemporary interest include INTERNET AND WEB-BASED DEVELOPMENT, ENTERPRISE RESOURCE PLANNING, SYSTEMS INTEGRATION, SYSTEMS THINKING, THEORY OF CONSTRAINTS, BUSINESS PROCESS RE-ENGINEERING, E-COMMERCE DEVELOPMENT, WORKFLOW APPLICATIONS and MOBILE APPLICATIONS/ARCHITECTURES, topics about which we will have much to say in this course. We will endeavor to provide you with enough introductory material about these topics so you can make a career decision about which of these areas you want to pursue, in the near term.

Related areas of interest include CAPABILITY MATURITY MODELS, SOFTWARE FACTORIES, TOTAL QUALITY MANAGEMENT, SYNCHRONOUS PRODUCTION, CONCURRENT ENGINEERING, TIME-BASED COMPETITION. All of these contemporary topics entail a pre-

occupation with the process. Understanding the process, documenting the process, improving the process, are all activities of intense interest to companies. As mentioned on the first day of class, this course will take this broadened view in addition to coverage of the usual project management topics.

Policy: The instructor reserves the right to make whatever changes are necessary in the syllabus or in the above-stated procedures. If changes are made, the student will be informed of them.

LEARNING OBJECTIVES OF COURSE:

1. To understand the project lifecycle
2. To learn the content of PMBOK
3. To learn how to use Microsoft Project for Planning and Execution
4. To learn tools for conceptualization and definition
5. To comprehend the basics of RAD
6. To learn the concepts of maturity and organizational learning
7. To learn systems thinking and system dynamics
8. To learn how to cope with risk
9. To learn how to manage “problems”
10. To learn the various decision environments and the models appropriate for them
11. To employ a managerial perspective that focuses on decision making rather than on the details of algorithms

COMPETENCIES AND CONTACT HOURS:

Competencies	Contact Hrs	Cum. Hrs.
To explain why project management is crucial in today’s world and use a socio-technical approach to understand projects	1	1
To identify the significant role projects contribute to the strategic direction of the organization and to select projects	2	3
To be able to identify different types of project management structures and explain how organizational culture impacts project	2	5
To recognize the importance of a complete scope statement acceptable to your customer as a condition for project success and create a WBS for a project	3	8
To understand estimating project times and costs are the foundation for project planning and control and apply different estimation methods	3	11
To establish the linkage between the WBS and the project network and provide a process for computing early, late, and slack activity times and identify the critical path	3	14
To describe the risk management process and identify different kinds of risks	2	16
To contrast the differences between time and resource constrained projects and explain the implications for managing time and resource constrained projects	3	19
To understand how to use the critical path to reduce project duration and explain alternative methods for crashing activities	1	20
To create an awareness of the network of relationships that need to be managed to be a successful project manager and identify the “currencies” a project manager can use to influence others	2	22
To identify key characteristics of a high-performance project team and develop strategies for developing a high-performance project team	1	23
To understand the reasons for outsourcing project work and identify best practices in outsourcing project work.	1	24
To appreciate the importance of engaging in project reviews and understand key issues surrounding project closure	2	26
To understand the advantages and limits of Agile PM and understand the basic methodology used in SCRUM	2	28
To provide guidance in pursuing a career in project management	2	30
To develop a working knowledge of Microsoft Project.	10	40

PROJECT DELIVERABLES

Your project will involve the following deliverables due on the following dates.

<u>DELIVERABLE</u>	<u>(Team)</u>	<u>DATE</u>
One-page Description (pre-proposal)		9-5
Requirements Document		9-21
Project Plan		10-31
Project Proposal		11-9
Project Earned Value Analysis		11-21
FINAL PROJECT (including all of the above as appendices) (and including scenario, problem, solution at the beginning)		12-5

OTHER DELIVERABLES

<u>DELIVERABLE</u>	<u>(Individual)</u>	<u>DATE</u>
Homework 1		9-14
Homework 2		10-17
Homework 3		11-28

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STUDENT ACKNOWLEDGMENT

I have read the preceding ISQS 4350 syllabus material carefully, including but not limited to, the grading, attendance, and civility policies, and fully understand what is expected of me.

Signature: _____

Print name: _____

Email address: _____

Date: _____