INFORMATION SYSTEMS PROJECT MANAGEMENT

ISQS 4350 – **Sections 001 (9:30-10:50am); 002 (12:30-1:50pm)** **Instructor: Dr. Burns**
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Office: BA E306 Office Hrs: Tu 11:00am-11:30am, Th 11:00am-12:15pm & by appointment

Texts: Larson, Erik and Clifford Gray, *Project Management: The Managerial Process, Seventh Edition*, McGraw-Hill Education, 2018.

Burns, James, *Project Management Processes and Practice: Applications to Information Technology*, 2018. (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 19%. The homework assignments will carry a total worth of 12%. A term project (discussed below) will be worth 16% plus 4% 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 taken. 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 exists 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.

Homework: The homework is to be turned in individually, not in teams. Blackboard will be used extensively to submit and grade some homework exercises. The homework multiple choice questions are due by 10:00pm on the due date. You must submit your multiple choice answers via Blackboard before the deadline, which is 10:00pm of the day before the next class. No homework (multiple choice part) will be accepted via email or any other methods. Your multiple choice question homework will be graded automatically and immediately after you submit it. Solutions to the homework will be made available via Blackboard after the due date.

Term Project: The term project will involve application of the techniques discussed in class to a problem area of interest to your team. All term project deliverables (project charter, requirements document, project proposal, project plan, project earned value analysis) will be accomplished in teams of size four. **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 **May 5, 2020**. It must be written in the following format and should be double-spaced typewritten pages in eleven points of ARIAL type. Your project plan shall consist of not less than 70 tasks/steps/activities/milestones/walkthroughs. You must execute and complete at least 20 of these tasks.

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 ahead or behind schedule and under or over 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 (at least 20 tasks) 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 deliverables, you must turn-in: 1) a 1-page-or-less description of revisions, 2) the grade sheet, 3) the newer upgraded deliverable, and 4) the former graded version of the deliverable. It is very important that you make all the changes suggested in the earlier version that was graded. Your final project hard-copy document must be turned in bound, but <u>not in a loose-leaf notebook, a three-ring binder or other bulky binder/notebook.</u>

<u>Requirements Document</u> – a description of the requirements for the prescriptive solution, due **February 13, 2020**. Use the template provided and follow its instructions explicitly, but do not include any of those instructions in your requirements document.

<u>Project Proposal</u> – 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 **March 24, 2020**. Proposals are primarily selling documents. Your proposals must do several things—sell your concept, your idea and your plan for achievement of that concept. And second, you must sell your firm—why your team should be the group selected to do this work. You can conjure any conceivable construct that would give you an advantage over your competition, such as number of previous clients for this type of project, the maturity of your team, what your clients are saying about your work and so forth. Use the template provided and follow its instructions explicitly, but do not include any of those instructions in your proposal document.

<u>Project Plan</u> – a project plan consisting of schedule (Work Breakdown Structure, and Gantt chart), cost, resources, assignments, exactly as described in the notes, due **April 14, 2020**. You must have at least 70 tasks/steps/activities. Use the template provided and follow its instructions explicitly, but do not include any of those instructions in your project plan.

<u>Project Earned Value Analysis</u> – a way to assess where the project is relative to budget and schedule. You will be using MS Excel to do the Earned Value Analysis of your project, due **April 21, 2020**. The purpose of this deliverable is to give you the experience of actually monitoring and controlling (tracking) your project. Your earned value analysis report must, like all the other documents, appear twice in your final project submission.

The formats for the Requirements Document, Project Proposal and Project Plan are discussed in Burns, Chapter 11. Templates are provided for each of the above deliverables within Blackboard.

All of the above must be revised and turned in with your term project final report, which is due on **May 5, 2020**. A one-page description of the revisions applied to each project deliverable 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 your team focus an idea your group 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
- CLOUD-BASED DEVELOPENT
- DATA SCIENCE AND BUSINESS INTELLIGENCE APPLICATIONS
- WEB-BASED INTERNET DEVELOPMENT
- MOBILE APPLICATION DEVELOPMENT
- ENTERPRISE RESOURCE PLANNING
- SYSTEMS INTEGRATION
- SYSTEMS THINKING
- THEORY OF CONSTRAINTS
- BUSINESS PROCESS RE-ENGINEERING

- E-COMMERCE DEVELOPMENT
- WORKFLOW APPLICATIONS
- 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.

Late Submissions: All assignments/deliverables must be completed and submitted according to the instructions provided. Failure to follow instructions may result in a grade of zero. Late assignments will not be accepted and the student will receive a zero on the assignment unless prior arrangement (before the due date) has been made.

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.

ADA: Any student who, because of a disability, may require special arrangements in order to meet the course requirements should contact the instructor as soon as possible to make any necessary arrangements. Students should present appropriate verification from Student Disability Services during the instructor's office hours. Please note: instructors are not allowed to provide classroom accommodations to a student until appropriate verification from Student Disability Services has been provided. For additional information, please contact Student Disability Services in West Hall or call 806-742-2405.

Academic Integrity: Academic integrity is taking responsibility for one's own class and/or course work, being individually accountable, and demonstrating intellectual honesty and ethical behavior. Academic integrity is a personal choice to abide by the standards of intellectual honesty and responsibility. Because education is a shared effort to achieve learning through the exchange of ideas, students, faculty, and staff have the collective responsibility to build mutual trust and respect. Ethical behavior and independent thought are essential for the highest level of academic achievement, which then must be measured. Academic achievement includes scholarship, teaching, and learning, all of which are shared endeavors. Grades are a device used to quantify the successful accumulation of knowledge through learning. Adhering to the standards of academic integrity ensures grades are earned honestly. Academic integrity is the foundation upon which students, faculty, and staff build their educational and professional careers.

[Texas Tech University ("University") Quality Enhancement Plan, Academic Integrity Task Force, 2010] Your integrity is worth far more than your grade in this class. 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.

Religious Holy Day: "Religious holy day" means a holy day observed by a religion whose places of worship are exempt from property taxation under Texas Tax Code §11.20. A student who intends to observe a religious holy day should make that intention known in writing to the instructor *prior* to the absence. A student who is absent from classes for the observance of a religious holy day shall be allowed to take an examination or complete an assignment scheduled for that day within a reasonable time after the absence. A student who is excused under section 2 may not be penalized for the absence; however, the instructor may respond appropriately if the student fails to complete the assignment satisfactorily.

Discrimination, Harassment, and Sexual Violence: Texas Tech University is committed to providing and strengthening an educational, working, and living environment where students, faculty, staff, and visitors are free from gender and/or sex discrimination of any kind. Sexual assault, discrimination, harassment, and other Title IX violations are not tolerated by the University. Report any incidents to the Office for Student Rights & Resolution, (806)-742-SAFE (7233) or file a report online at titleix.ttu.edu/students. Faculty and staff members at TTU are committed to connecting you to resources on campus. Some of these available resources are: TTU Student Counseling Center, 806-742-3674, https://www.depts.ttu.edu/scc/ (Provides confidential support on campus.) TTU 24-hour Crisis Helpline, 806-742-5555, (Assists students who are experiencing a mental health or interpersonal violence crisis. If you call the helpline, you will speak with a mental health counselor.) Voice of Hope Lubbock Rape Crisis Center, 806-763-7273, voiceofhopelubbock.org (24-hour hotline that provides support for survivors of sexual violence.) The Risk, Intervention, Safety and Education (RISE) Office, 806-742-2110, https://www.depts.ttu.edu/rise/ (Provides a range of resources and support options focused on prevention education and student wellness.) Texas Tech Police Department, 806-742-3931, http://www.depts.ttu.edu/ttpd/ (To report criminal activity that occurs on or near Texas Tech campus.)

Civility in the Classroom: Texas Tech University is a community of faculty, students, and staff that enjoys an expectation of cooperation, professionalism, and civility during the conduct of all forms of university business, including the conduct of student–student and student–faculty interactions in and out of the classroom. Further, the classroom is a setting in which an exchange of ideas and creative thinking should be encouraged and where intellectual growth and development are fostered. Students who disrupt this classroom mission by rude, sarcastic, threatening, abusive or obscene language and/or behavior will be subject to appropriate sanctions according to university policy. Likewise, faculty members are expected to maintain the highest standards of professionalism in all interactions with all constituents of the university (www.depts.ttu.edu/ethics/matadorchallenge/ethicalprinciples.php).

LGBTQIA Support: Resources are available through the Office of LGBTQIA within the Center for Campus Life, Student Union Building Room 201, www.lgbtqia.ttu.edu, 806.742.5433. Within the Center for Campus Life, the Office serves the Texas Tech community through facilitation and leadership of programming and advocacy efforts. This work is aimed at strengthening the lesbian, gay, bisexual, transgender, queer, intersex, and asexual (LGBTQIA) community and sustaining an inclusive campus that welcomes people of all sexual orientations, gender identities, and gender expressions.

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 Project Libra for Planning
4. To learn tools for conceptualization and definition
5. To comprehend the basics of Adaptive and Agile Project methdologies
6. To learn the concepts of maturity and organizational learning
7. To learn systems thinking concepts
8. To learn how to cope with risk
9. To learn how to manage "problems"
10. To learn what soft skills employers consider important
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.

DELIVERABLE (Team)	DATE
One-page Description (Project Charter)	1-28
Requirements Document	2-13
Project Proposal	3-24
Project Plan	4-14
Project Earned Value Analysis	4-21
FINAL PROJECT (including all of the above as appendices) (and including scenario, problem, solution at the beginning as FRONT MATTER)	5-5

Student PMI Chapter Meetings: ISQS 4350 students will receive 10 extra credit class attendance points for attending a monthly student PMI Chapter Meeting. There will be three such meetings. In total, this amounts to 30 extra credit points added to your class attendance/participation grade. If your attendance/participation was perfect, your grade would be 100. If you also attended all three PMI Chapter Meetings your adjusted class attendance/participation grade would be 130. Recall that class attendance/participation is worth 11% of your course grade. The meetings take place on the fourth Tuesday of each month, excepting January. The dates/times for those meetings are:

February 25, 2020
March 24, 2020
April 28, 2020

BIBLIOGRAPHY

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Name: _____

ISQS 4350 Survey

1. Have you had any real-world project experience? (YES/NO)
   If so, explain.

2. Have you had any real-world project management experience? (YES/NO)
   If so, explain.

3. Do you believe project management is important? (YES/NO)
   Why or why not?

4. What are your expectations of this class?

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: _____