

IT 450 Project Management I

Instructor Information

Instructor:	Bruce DeRuntz, PhD, ASQF, CSSBB, CQE, CMQOE
Class Meeting Times:	T, R, 2:00-3:15
Course Location:	D-102
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Course Objective

IT 450 is designed to help students understand some of the greatest challenges that organizations face today – the effective and efficient methods for implementing projects in organizations. Project management, referred to by Fortune magazine as the #1 career choice for the coming decade, represents a skill that is in high demand by all companies, both domestic and international. This course will provide a comprehensive overview of the skills needed and challenges to be faced in managing projects in organizations.

The course is divided into a series of major topic areas relating to different elements of project management. After developing a sense of the strategic overview of project management, we will begin analyzing various components of project management such as project selection, planning, organizing, and project control. The goal is to shape the course to approximate the elements of project management and the challenges faced chronologically; that is, first considering how to plan the project and then how to more effectively run the project. The remainder of the course concentrates on making use of the theories by developing analytical and interpersonal skills in the students that will be useful to them as project managers.

Throughout the course of this class, students will work together in teams and apply what they are learning to an integrated project. The integrated project is the major assignment for the course and will require the most planning, interpersonal skills, effort, dedication and professionalism.

Course Materials

- Course Text: Project Management: Achieving Competitive Advantage, 3/E by Jeffery K. Pinto, ISBN: 0132664151
- Students will need MS Project 2010 in this class. See Student Resources below.

Graded Items

10%	Class Participation			
40%	Team Project			
20%	Quizzes			
30%	Microsoft Project (MSP) 2010 focus			
	MSP Tutorial (0%)	MSP assignment (5%)	MSP quiz (10%)	MSP individual project (15%)
100%				

Grading Scale

- A: 90 - 100%
- B: 80 - 89.9
- C: 70 – 79.9
- D: 60 – 69.9
- F: 59.9 and below

Lessons (Topics)

1. Chapter 1: Introduction: Why Project Management?
2. Chapter 2: The Organizational Context: Strategy, Structure, and Culture
3. Chapter 3: Project Selection and Portfolio Management
4. Chapter 4: Leadership and the Project Manager
5. Chapter 5: Scope Management
6. Chapter 6: Project Team Building, Conflict, and Negotiation
7. Chapter 7: Risk Management
8. Chapter 8: Cost Estimation and Budgeting
9. Chapter 9: Project Scheduling: Networks, Duration Estimation, and Critical Path
10. Chapter 10: Project Scheduling: Lagging, Crashing, and Activity Networks
- ~~11. Chapter 11: Critical Chain Project Scheduling~~
12. Chapter 12: Resource Management
13. Chapter 13: Project Evaluation and Control
14. Chapter 14: Project Closeout and Termination
15. Appendix: Tutorial for Microsoft® Project 2010

Integrated Project

Working in assigned groups, students are to select a project offered by the College’s Senior Design class, industry or that they want to plan. It can be work related or an extension of another class project. The project must be approved by the instructor.

The integrated project instructions are listed at the end of Chapters 2, 5, 7, 8, 10, & 12. The intention is for students to apply what they are learning throughout the course and apply it to an actual project.

Use Microsoft Project to construct a project plan that will included activities, dates, durations, costs, resources, a clear critical path and PDF files of summary reports. Groups will make a summary presentation at the end of the semester.

Week	Read	Date	Topic	Due
Week 1		1/14		
Week 2	Chapter 1	1/21		
Week 3	Chapter 2	1/28		
Week 4	Chapter 2	2/4		
Week 5	Chapter 3	2/11	MSP webinar 2/10 & 2/11 from 12-4 PM	
Week 6	Chapter 4	2/18		
Week 7	Chapter 5	2/25		
Week 8	Chapter 6	3/4	Receive draft schedule from Senior Design Team (SDT)	
Week 9		3/11	SPRING BREAK	
Week 10	Chapter 7	3/18	Review Gantt charts	
Week 11	Chapter 8	3/25	Return Gantt chart to SDT	
Week 12	Chapter 9	4/1		
Week 13	Chapter 10	4/8		
Week 14	Chapter 12	4/15		
Week 15	Chapter 13	4/22		
Week 16	Chapter 14	4/29		Project Plan
Finals Week		5/7 3:10		

Student Learning Objectives

At the end of the course, the student should be able to:

1. Chapter 1 - Introduction: Why Project Management
 - 1.1. Understand why project management is becoming such a powerful and popular practice in business today.
 - 1.2. Recognize the basic properties of projects, including their definition.
 - 1.3. Understand why effective project management is such a challenge.
 - 1.4. Differentiate between project management practices and more traditional, process-oriented business functions.
 - 1.5. Recognize the key motivators that are pushing companies to adopt project management practices. Understand and explain the project life cycle, its stages, and the activities that typically occur at each stage in the project.
 - 1.6. Understand the concept of project “success,” including various definitions of success, as well as the alternative models of success.
 - 1.7. Understand the purpose of project management maturity models and the process of benchmarking in organizations.
 - 1.8. Identify the relevant maturity stages that organizations go through to become proficient in their use of project management techniques.

2. Chapter 2 - The Organization Context: Strategy, Structure, and Culture
 - 2.1. Understand how effective project management contributes to achieving strategic objectives.
 - 2.2. Recognize three components of the corporate strategy model: formulation, implementation, and evaluation.
 - 2.3. See the importance of identifying critical project stakeholders and managing them within the context of project development.
 - 2.4. Recognize the strengths and weaknesses of three basic forms of organizational structure and their implications for managing projects.
 - 2.5. Understand how companies can change their structure into a “heavyweight project organization” structure to facilitate effective project management practices.
 - 2.6. Identify the characteristics of three forms of project management office (PMO). Understand key concepts of corporate culture and how cultures are formed.
 - 2.7. Recognize the positive effects of a supportive organizational culture on project management practices versus those of a culture that works against project management.

3. Chapter 3 - Project Selection and Portfolio Management
 - 3.1. Explain six criteria for a useful project-selection/screening model.
 - 3.2. Understand how to employ checklists and simple scoring models to select projects.
 - 3.3. Use more sophisticated scoring models, such as the Analytical Hierarchy Process.
 - 3.4. Learn how to use financial concepts, such as the efficient frontier and risk/return models.
 - 3.5. Employ financial analyses and options analysis to evaluate the potential for new project investments.
 - 3.6. Recognize the challenges that arise in maintaining an optimal project portfolio for an organization.
 - 3.7. Understand the three keys to successful project portfolio management.

4. Chapter 4 - Leadership and the Project Manager
 - 4.1. Understand how project management is a “leader intensive” profession.
 - 4.2. Distinguish between the role of a manager and the characteristics of a leader.
 - 4.3. Understand the concept of emotional intelligence as it relates to how project managers lead.
 - 4.4. Recognize traits that are strongly linked to effective project leadership.
 - 4.5. Understand the implications of time orientation on project management. Identify the key roles project champions play in project success.
 - 4.6. Recognize the principles that typify the new project leadership.
 - 4.7. Understand the development of project management professionalism in the discipline.

5. Chapter 5 - Scope Management
 - 5.1. Understand the importance of scope management for project success.
 - 5.2. Construct a Work Breakdown Structure for a project. Develop a Responsibility Assignment Matrix for a project.
 - 5.3. Describe the roles of changes and configuration management in assessing project scope.

6. Chapter 6 - Project Team Building, Conflict, and Negotiation
 - 6.1. Understand the steps involved in project team building.
 - 6.2. Know the characteristics of effective project teams and why teams fail.
 - 6.3. See the advantages and challenges of virtual project teams.
 - 6.4. Know the stages in the development of groups.
 - 6.5. Describe how to achieve cross-functional cooperation in teams.
 - 6.6. Understand the nature of conflict and evaluate response methods.
 - 6.7. Understand the importance of negotiation skills in project management.

7. Chapter 7 - Risk Management
 - 7.1. Define project risk.
 - 7.2. Recognize four key stages in project risk management and the steps necessary to manage risk.
 - 7.3. Understand five primary causes of project risk and four major approaches to risk identification.
 - 7.4. Recognize four primary risk mitigation strategies.
 - 7.5. Explain the Project Risk Analysis and Management (PRAM) process.

8. Chapter 8 - Risk Management
 - 8.1. Understand the various types of common project costs.
 - 8.2. Recognize the difference between various forms of project costs.
 - 8.3. Apply common forms of cost estimation for project work, including ballpark estimates and definitive estimates.
 - 8.4. Understand the advantages of parametric cost estimation and the application of learning curve models in cost estimation.
 - 8.5. Discern the various reasons why project cost estimation is often done poorly.
 - 8.6. Apply both top-down and bottom-up budgeting procedures for cost management.
 - 8.7. Understand the uses of activity-based budgeting and time-phased budgets for cost estimation and control.

8.8. Recognize the appropriateness of applying contingency funds for cost estimation.

9. Chapter 9 - Project Scheduling: Networks, Duration Estimation, and Critical Path

- 9.1. Understand and apply key scheduling terminology. Apply the logic used to create activity networks, including predecessor and successor tasks.
- 9.2. Develop an activity network using Activity-on-Node (AON) techniques.
- 9.3. Perform activity duration estimation based on the use of probabilistic estimating techniques.
- 9.4. Construct the critical path for a project schedule network using forward and backward passes.
- 9.5. Identify activity float and the manner in which it is determined.
- 9.6. Understand the steps that can be employed to reduce the critical path.

10. Chapter 10 - Project Scheduling: Lagging, Crashing, and Activity Networks

- 10.1. Apply lag relationships to project activities.
- 10.2. Construct and comprehend Gantt charts.
- 10.3. Understand the trade-offs required in the decision to crash project activities.
- 10.4. Develop activity networks using Activity-on-Arrow techniques.
- 10.5. Understand the differences in AON and AOA and recognize the advantages and disadvantages of each technique.

~~11. Chapter 11 - Critical Chain Project Scheduling~~

- ~~11.1. Understand the difference between common cause and special cause variation in organizations.~~
- ~~11.2. Recognize the three ways in which project teams inflate the amount of safety for all project tasks.~~
- ~~11.3. Understand the four ways in which additional project task safety can be wasted.~~
- ~~11.4. Distinguish between critical path and critical chain project scheduling techniques.~~
- ~~11.5. Understand how critical chain resolves project resource conflicts.~~
- ~~11.6. Apply critical chain project management to project portfolios.~~

12. Chapter 12 - Resource Management

- 12.1. Recognize the variety of constraints that can affect a project, making scheduling and planning difficult.
- 12.2. Understand how to apply resource-loading techniques to project schedules to identify potential resource over-allocation situations.
- 12.3. Apply resource-leveling procedures to project activities over the baseline schedule using appropriate prioritization heuristics.
- 12.4. Follow the correct steps necessary to effectively smooth resource requirements across the project life cycle.
- 12.5. Apply resource management within a multi-project environment.

13. Chapter 13 - Resource Management

- 13.1. Understand the nature of the control cycle and four key steps in a general project control model.
- 13.2. Recognize the strengths and weaknesses of common project evaluation and control methods.
- 13.3. Understand how Earned Value Management can assist project tracking and evaluation.
- 13.4. Use Earned Value Management for project portfolio analysis. Understand behavioral concepts and other human issues in evaluation and control.

14. Chapter 14 - Project Close-out and Termination

- 14.1. Distinguish among the four main forms of project termination.
- 14.2. Recognize the seven key steps in formal project closeout.
- 14.3. Understand key reasons for early termination of projects.
- 14.4. Know the challenges and components of a final project report.

Software Resource

The College of Engineering is now a member of the Microsoft Developer Network Academic Alliance (MSDNAA). The software may also be installed on personal computers for teaching, study and research at no cost. Faculty, staff and students in the College of Engineering are allowed to obtain one copy and one key for each software title as applicable for use within the licensing terms.

Go to: http://msdn01.e-academy.com/elms/Storefront/Home.aspx?campus=siuc_coe

Click on the "Sign In" link at the top right side of the page

Click the "Register" button in the lower part of the page.

In the "Username (email address)*" box, enter your DAWGTAG (850xxxxxx without the siu)

Follow the prompts to continue the registration process

If you have any further problems or questions, please contact msdnaa@engr.siu.edu

A list of available software can be found at

<http://www.engr.siu.edu/engrold/MSDNAA.html>

Late Work Policy

Late assignments will not be accepted. Students should submit work in advance of deadlines to avoid consequences.

SIU Policy on Incomplete Grades

An *INC* is assigned when, for reasons beyond their control, students *engaged in passing work* are unable to complete all class assignments. An *INC* must be changed to a completed grade within a time period designated by the instructor but not to exceed one year from the close of the term in which the course was taken, or *graduation*, whichever occurs first.

Should the student fail to complete the course within the time period designated, not to

exceed one year, or graduation, whichever occurs first, the incomplete will be converted to a grade of *F* and the grade will be computed in the student's grade point average. Students should not reregister for courses in which an *INC* has been assigned with the intent of changing the *INC* grade. Re-registration will not prevent the *INC* from being changed to an *F*.

Attendance Policy

Number of unexcused absences allowed, acceptable excuses, tardiness policy and the effect of absences and tardiness on a student's final grade. Explicitly note if there is a point at which missing a specific number of classes results in a failing grade.

Mobile Technology Policy

Students are allowed to use laptop and tablet computers, but no other electronic device in class.

Inclusive Excellence

SIU contains people from all walks of life, from many different cultures and sub-cultures, and representing all strata of society, nationalities, ethnicities, lifestyles, and affiliations. Learning from and working with people who differ from you is an important part of your education in this class, as well as an essential preparation for any career.

Student Code of Conduct/Plagiarism

Refer to the following sites for information on the SIU's student code of conduct and Morris Library's guide on plagiarism:

SIU Student Code of Conduct:

<http://policies.siu.edu/documents/StudentConductCodeFINALMay32011.pdf>

Morris Library Guide on Plagiarism: <http://libguides.lib.siu.edu/plagiarism>

Emergency Procedures

Southern Illinois University Carbondale is committed to providing a safe and healthy environment for study and work. Because some health and safety circumstances are beyond our control, we ask that you become familiar with the SIUC Emergency Response Plan and Building Emergency Response Team (BERT) program. Emergency response information is available on posters in buildings on campus, available on BERT's website at www.bert.siu.edu, Department of Safety's website www.dps.siu.edu (disaster drop down) and in Emergency Response Guideline pamphlet. Know how to respond to each type of emergency.

Instructors will provide guidance and direction to students in the classroom in the event of an emergency affecting your location. **It is important that you follow these instructions and stay with your instructor during an evacuation or sheltering emergency.** The Building Emergency Response Team will provide assistance to your instructor in evacuating the building or sheltering with the facility.

Resources for Academic Assistance

Learning Support Services: <http://tutoring.siu.edu/>

- Provides academic assistance in courses/tutoring

Disability Support Services: <http://disabilityservices.siu.edu/>

- Provides the required academic and programmatic support services to students with permanent and temporary disabilities

SIUC Writing Center: <http://write.siu.edu/>

- Offers free tutoring services to all SIUC undergraduate and graduate students and faculty.

SIU Email Policy

Official SIU Student Email Policy: <http://policies.siu.edu/policies.email.htm>

SIU Student Conduct Code:

<http://policies.siu.edu/documents/StudentConductCodeFINALMay32011.pdf>

Saluki Cares

The purpose of Saluki Cares is to develop, facilitate and coordinate a university-wide program of care and support for students in distress. By working closely with faculty, staff, students and their families, SIU Carbondale continues to display a culture of care by demonstrating to our students and their families that they are an important part of the community. To make a referral to Saluki Cares click, call, or send:

<http://salukicare.siu.edu/index.html>, (618) 453-5714, or siucares@siu.edu.