

CIS 3001 Managing Information Technology Projects

Course Description

This course examines the defining characteristics of IT projects, especially involving the development of software intensive systems, and introduces the student to a variety of project management techniques that can be applied in an IT project context. This course provides an introduction to the disciplined approaches to IT project management. While IT projects are similar in some ways to other types of projects, they pose unique challenges for the managers and organizations that undertake them. IT project management is particularly challenging because of several factors including: (1) the rapid pace of technological changes occurring in the IT field, (2) the invisible nature of software, (3) the ever-present pressure to add new features and functionality to systems, and (4) the difficulty of managing the organizational changes that accompany most IT implementations. In spite of the advanced technology that surrounds computer-based information systems, IT project management in most organizations is not very disciplined. This course will give students an understanding of the most common processes, tools, techniques, and theories that are necessary to manage IT projects. Managing IT projects that follow both plan-driven traditional development methods as well as agile methods will be covered.

Learning Objectives

Upon completion of the course, students should be able to:

- Articulate similarities and differences between IT projects and other types of projects.
- Apply general project management competencies to IT projects.
- Apply the techniques and develop the documents related to IT project management.
- Understand how to apply different life-cycle models to design IT projects.
- Understand the nature of projects that plan plan-driven and agile development methodologies.
- Identify IT project risks and develop risk mitigation strategies.
- Identify cases of IT project escalation and de-escalate troubled IT projects.
- Understand how the organizational environment can facilitate IT project success.
- Understand how to facilitate learning in and learning from IT projects.

Catalog Descriptoin

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Tentative Plan

Class	Topic	Readings	Learning Objectives
1	<ul style="list-style-type: none"> ▪ Course overview and introduction ▪ Introduction to Project Management ▪ The nature of IT projects 	Fuller, Chapter 1 Why IT projects fail http://www.computerworld.com/managementtopics/management/project/story/0,10801,99488,00.html Software's Chronic Crisis http://www.cis.gsu.edu/~mmoore/CIS3300/handouts/SciAmSept1994.html	<ul style="list-style-type: none"> ▪ Differentiate between projects and non projects, as well as understand the defining characteristics of IT projects ▪ Understand reasons for both IT project failure and project success ▪ Explain what differentiates IT projects from non-IT projects ▪ Explain key terms in project management and describe some of the tools and techniques used in project management
2	<ul style="list-style-type: none"> ▪ Plan Driven IT projects ▪ Rational Unified Process 	Fuller, Chapter 2	<ul style="list-style-type: none"> ▪ Define the project management lifecycle in plan-driven IT projects ▪ Understand the project management context in plan-driven IT projects ▪ Understand the basics of software that supports IT project management
3	<ul style="list-style-type: none"> ▪ Agile Development Methods 	Schwaber Chapter 1	<ul style="list-style-type: none"> ▪ Define the project management lifecycle in agile IT projects ▪ Understand the project

			management context in agile IT projects
4	<ul style="list-style-type: none"> ▪ Project management in the IT context ▪ IT Project escalation 	<p>Fuller, Chapter 2</p> <p>Case Discussion: Capers, R.S., and Lipton, E. "Hubble Error: Time, Money and Millionths of an Inch," <i>Academy of Management Executive</i>, Vol. 7, No. 4, 1993, pp. 41-57.</p>	<ul style="list-style-type: none"> ▪ Comprehend basic project management processes in plan driven projects. ▪ Comprehend basic project management processes in agile IT projects.
5	<ul style="list-style-type: none"> ▪ Managing Project Teams 	Fuller Chapter 3	<ul style="list-style-type: none"> ▪ Describe the characteristics of a project team and the factors that influence team performance. ▪ Explain what is meant by need and process theories of motivation. ▪ Contrast trait, behavioral, and contingency theories of leadership. ▪ Explain the sources of power and how these sources can be used to influence people. ▪ Contrast functional versus dysfunctional conflict and explain how conflict can be beneficial to a project team. ▪ Explain why global project teams are increasing and describe the challenges of managing these teams.
6	<ul style="list-style-type: none"> ▪ Project Initiation and Planning 	Fuller Chapter 5	<ul style="list-style-type: none"> ▪ Describe the project initiation process, including how to identify, rank, and select information systems projects, as well as establish a project charter. ▪ Explain project scope planning, including how to develop the project workbook, scope

			<p>statement, and baseline project plan (BPP).</p> <ul style="list-style-type: none"> ▪ Describe project scope definition, verification, and change control.
7	<ul style="list-style-type: none"> ▪ Managing Project Scheduling <p>Test 1 (mid term)</p>	Fuller Chapter 6	<ul style="list-style-type: none"> ▪ Provide an overview of project scheduling, including its importance and the challenges associated with it. ▪ Describe project scheduling techniques, such as the Work Breakdown Structure, Activity Definition, and Activity Sequencing. ▪ Describe how project management software packages can help with project scheduling.
8	<ul style="list-style-type: none"> ▪ Managing Project Resources 	Fuller Chapter 7	<ul style="list-style-type: none"> ▪ Understand what resources are, and the types of resources that are typically available. ▪ Appreciate the importance of managing project resources, and their effect on project duration. ▪ Apply project resource management tools and techniques for managing project time.
9	<ul style="list-style-type: none"> ▪ IT project Cost Estimation ▪ Managing large, complex, highly compressed IT projects 	Sodhi, Chapter 3	<ul style="list-style-type: none"> ▪ Understand the basics of cost estimation in IT projects ▪ Develop a working knowledge of cost estimation techniques such as the COCOMO, SLIM and Function Point Approach ▪ Understand the tradeoffs among project characteristics that influence project costs and schedule

10	<ul style="list-style-type: none"> ▪ Managing IT Project Quality 	Fuller Chapter 8	<ul style="list-style-type: none"> ▪ Understand the concept of quality and why it is important. ▪ Discuss quality management pioneers and quality certifications and standards in industries today. ▪ Describe tools and techniques for managing quality, including quality planning, quality assurance, and quality control.
11	<ul style="list-style-type: none"> ▪ Managing IT Project Risk 	Fuller Chapter 9 A case study in classic mistakes: http://www.stevemcconnell.com/rdmistak.htm	<ul style="list-style-type: none"> ▪ Understand the concept of risk and its relationship to project management. ▪ Identify categories of risk and their effect on information systems projects ▪ Apply techniques for managing project risk, including risk management planning, risk identification, qualitative risk analysis, quantitative risk analysis, risk response planning, and risk monitoring and control
12	<ul style="list-style-type: none"> ▪ Managing Procurement in IT projects 	Fuller Chapter 10	<ul style="list-style-type: none"> ▪ Describe the various sources of systems and software components. ▪ Understand the appeal of outsourcing. ▪ Explain project procurement management. ▪ Describe how to plan purchases and acquisitions. ▪ Explain how to plan contracting ▪ Understand how to request seller responses. ▪ Describe how to select sellers. ▪ Explain contract administration. ▪ Understand contract closure

13	<ul style="list-style-type: none"> IT project Execution and Control 	Fuller Chapter 11	<ul style="list-style-type: none"> Describe the seven project management processes that are part of project execution. Discuss the activities project managers engage in during project execution. Explain some of the key problems in IT projects that occur during project execution. Describe the importance of communication to project execution.
14	<ul style="list-style-type: none"> Comparing Agile and Plan Driven project management 	Schwaber Chapter 2 Case study on Rational Unified Process: http://www-106.ibm.com/developerworks/rational/library/4474.html?ca=dnp-317	<ul style="list-style-type: none"> Understand how the basic tasks in project management differ between agile and plan-driven IT projects Understand the tradeoffs involved in managing plan-driven and agile IT projects Understand the different risks and mitigation strategies that differentiate agile and plan-driven IT projects
15	<ul style="list-style-type: none"> Project Closure and Audit 	Fuller Chapter 12	<ul style="list-style-type: none"> Define project control and closure Understand the importance of, and general philosophies behind, project control and closure. Apply techniques for managing project control and closure

Prerequisite Policy

A student must fulfill the following course prerequisites as listed in the Catalog description: CSP: I, II, III, IV, V, VI. (see <http://robinson.gsu.edu/rcbonline/csps.htm>)

Course Material

Required text: M. Fuller, J. Valacich and J. George, Information Systems Project Management, Pearson Pertice Hall, 2007. ISBN: 0-13-145417-X

Jag Sodhi and Prince Sodhi, IT Project Management Handbook, Management

Concepts © 2001, Chapter 3. Available online at books 24x7 through the GSU library.

Ken Schwaber, Agile Project Management with Scrum, Microsoft Press © 2004 (192 pages), ISBN:073561993X, Chapters 1, 2. Available online at books 24x7 through the GSU library.

Supplementary References (Optional)

- A Guide to the Project Management Body of Knowledge (PMBOK® Guide), Third Edition, Project Management Institute © 2004 (388 pages), ISBN:193069945X. Excerpts from the 2000 edition of the PMBOK are available for free download from PMI (www.pmi.org).
- Kim Heldman, PMP: Project Management Professional Study Guide, Sybex © 2002. Available online at books 24x7 through the GSU library.
- A “how-to” guide for using MS Project 2003. There are many books out there--here are two recommendations. For beginners, there is: Microsoft Project Version 2003 Step By Step, by Carl S. Chatfield and Timothy D. Johnson, published by Microsoft Press, ISBN: 0735619557, 2003. Available from Amazon.com (and other sources) for \$20.39. For a slightly more advanced user, there is: Microsoft Project Version 2003 Inside Out by Teresa S. Stover et al., published by Microsoft Press; ISBN: 0735619581, 2003. Available from Amazon.com (and other sources) for \$33.99. If you have not ever used MS Project and want something beyond the tutorials and on-line documentation, you may wish to purchase one of these books.

TOOLS

1. **COCOMO tool** available at http://sunset.usc.edu/research/COCOMOII/expert_cocomo/expert_cocomo2000.html
2. Microsoft Project 2003. The best way to obtain access to MS Project is through the CIS Department and the Microsoft Developer's Network Academic Alliance. The CIS Department at GSU is now licensed under the MSDN Academic Alliance (MSDNAA) Program which enables every student and faculty member to access all of the software available under the Program. Microsoft's e-academy is responsible for making this software available to everyone for direct download over the Internet. The MSDNAA database of CIS courses registered students was compiled from those students who were registered as CIS Majors and were taking classes this semester ONLY. If you have flagged your GSU Directory Information as "BLOCKED-CONFIDENTIAL", you will have to come to the Department and sign a release. This is done only ONCE per semester. To become an eligible user, you have to be a current CIS course student and the upload will automatically register you sending all the information to your student email account @ GSU. Please refer to [MSDNAA Master End-User License Agreement](#). Students and faculty can access this software at http://msdn.e-academy.com/gsu_cis.

Here you can download and access the complete suite of Microsoft developer tools, servers, and platforms. There is no charge to download the software as long as you are an eligible user in the System. There are some selected products that have the option of purchasing the media for a minimum charge.

- DO NOT wait until the day before the assignment is due to make sure you can access the software. It can take several days to get your information into the system. If you are not a CIS major and have trouble accessing the software, contact the CIS department (Room 929) and explain why you need access to the MSDNAA site. They will add you to the system. The software packages on MSDNAA are not demos; they are full copies.
- Most students will want to take advantage of this. However, for those who do not, an alternative means of obtaining the MS Project software is to visit Microsoft's website and obtain a 60-day trial CD of MS Project 2003. The cost on this last time I checked was \$8.00 and the url is: <http://www.microsoft.com/office/project/prodinfo/trial.msp>
- Be forewarned that the MS Project software you will need for this course is *not* installed in the university computer labs. You will need access to both the software and a printer to complete certain assignments for the course.

Evaluation Policy

Assignments	Assignment 1	100	400
	Assignment 2	100	
	Assignment 3	100	
	Assignment 4	100	
Tests	Test 1 (mid term)	250	550
	Test 2 (final)	300	
Participation	Attendance & participation		50
Total			1000