BOSTON UNIVERSITY
METROPOLITAN COLLEGE

IT Project Management – Spring 2018

Course Overview

This course provides students with a comprehensive overview of the principles, processes, and practices of software project management. Students learn techniques for planning, organizing, scheduling, and controlling software projects. There is substantial focus on software cost estimation and software risk management. Students will obtain practical project management skills and competencies related to the definition of a software project, establishment of project communications, managing project changes and managing distributed software teams and projects. We also focus on the Project Management Body of Knowledge (PMBOK) as a framework in this course. This is now a world-wide defacto standard for project management and recommended by IEEE and ANSI as well for their project management standard.

Course Learning Objectives

By successfully completing this course you will be able to:

1. Demonstrate knowledge of IT project management terms and techniques, such as:

    Difference between a program, project, portfolio, and operation
    The key processes that all projects might go through
    The triple constraint of project management
    The project management knowledge areas and process groups
    The project life cycle
    Tools and techniques of project management, such as:
    - Work breakdown structures
    - Network diagrams, critical path analysis, and critical chain scheduling

    Cost estimation and Risk Management
    Earned value management
    Motivation theory and team building
    Conflict management
    Project Quality Management

2. Understand advanced topics in the domain of software project management.

    This course focuses on Software Cost Estimation and Software Risk Management.
    Project planning, organization and control, both theory and practice.

3. Apply project management concepts by working on a group project as a project leader or active team member.

Students will create a real-world Web based project via a Web Project implemented in small working in teams in a collaborative manner using MS Sharepoint and other tools that you may prefer.
They will produce a comprehensive software project management repository for the above project.
Using skills developed in this and other computer science courses and previous work experience, students will develop an appreciation of the many skills required to do good systems analysis and design.

4. Develop good documentation/technical writing skills, virtual teamwork, and virtual communication skills. Develop good project management skills.

Note: (If you plan to become a certified Project Management Professional this comment applies to you.) This course counts to PMP educational requirements and the project produced counts towards experience. Also you will be eligible to attend our workshop at Boston along with several other students. An online recording of the workshop might be available to you as well.

Course and Instructor

- ***Instructor:*** Raj Heda
- ***Location:*** Bldg: FLR / Room: 267
- ***Course Day/Time:*** Thursday Nights, 6:00 PM to 9:00 PM
- ***Instructor Email:*** rajheda@bu.edu
- ***Office hours:*** After class. The best way to reach me is via email. You can also call me at cell: 617-283-5670 ©.

Recommended course books:

Kanabar, V & Warburton, R. MBA Fundamentals: Project Management; Kaplan Publishing

"Project Management, The Managerial Process", Fifth Edition. Clifford F. Gray & Erik W. Larson, McGraw-Hill, New York (2011)

Schwalbe, K. Information Technology Project Publisher: Course Technology; 6 edition

Goncalves, M & Heda, R. Fundamentals of Agile Project Management; ASME Press (2010)

Goncalves, M & Heda, R. Risk Management; ASME Press (2013)

Project Management Body of Knowledge from PMI

"MS Project 2007 Step by Step, Self-Study Kit", Carl S. Chatfield, Timothy D. Johnson, Microsoft Press, (2005).

These books can be purchased from Barnes and Noble at Boston University or Amazon.com.

Texts available through BU's Online library:
Stellman, A. & Greene, J. (2005) Applied Software Project Management. New York: O'Reilly. ISBN 0-596-00948-8

Shelford, T. J. & Remillard, G. A. (2002) Real Web Project Management: Case Studies and Best Practices from the Trench. New York: Addison Wesley Professional. ISBN 0-321-11255-5

Relevant articles and handouts will be distributed in class during the semester.

The course pack for this class can be purchased at the Harvard Business School Publishing site – http://cb.hbsp.harvard.edu/cbmp/access/68794307

Course Requirements & Assignments

Students will be expected to complete readings and assignments, attend class regularly and participate in class discussions. The attached outline of topics and due dates are tentative. The assignments are designed to acquaint you with the theories and major trends confronting today's programming project managers. The textbook readings will be supplemented with material collected from recent professional journals. Case studies require you to extend what you have learned into a 'real-life' or simulated business situations.

Course Format

The course will consist of lectures, case studies, discussions and examinations. In addition, various online references will be utilized. PowerPoint slides will be used to strengthen the students' absorption of the course material.

Course Schedule and Lecture Topics (*Subject to Change*)				
Week	**Date**	**Topic**	**Readings / Discussions**	**Assignments (to be submitted before start of class)**
1	01/18	**Introduction** **Map exercise** **(In-Class)**		
2	01/25	**Introduction to Project Management** • What is a Project? • Project Management • Program and Project Portfolio Management • Role and Responsibility of a Project Manager • Project Life Cycle and Product Life Cycle • Project Management Profession	Kanabar & Warburton, Chapter 1 PMBOK Guide, Chapters 1 -3 Kanabar & Warburton, Chapters 3, 4 PMBOK Guide, Chapters 4, 5	Brief project description for approval
3	02/01	**The Project Management Process Groups: A Case Study** • Project Management Process Groups • Mapping the Process Groups to the Knowledge Areas • Developing an Information Technology Project Management Methodology • Case Study: JWD Consulting	Kanabar & Warburton, Chapters 2,	
4	02/08	**Project Integration Management** • Strategic Planning and Project Selection	Kanabar & Warburton, Chapters 4 and 5 PMBOK Guide, Chapter 6	Project Charter Mini Software Assignment

		• Developing a Project Charter • Developing a Project Management Plan • Directing and Managing Project Execution • Monitoring and Controlling Project Work • Performing Integrated Change Control • Closing Projects or Phases **Project Scope Management** • Collecting Requirements • Defining Scope • Creating the WBS • Verifying Scope • Controlling Scope		# 1
5	02/15	**Project Time Management** • Definition of Activities • Estimating Resources and Project Schedules • Schedule development and Control • Top-Down Estimation Techniques • The Wideband Delphi Process • Parametric Models • Life Cycle Effort Distribution to Estimate • Estimating with PERT **Project Cost Management** • Cost Estimation	Kanabar & Warburton, Chapter 9 PMBOK Guide, Chapter 7	

		• Cost Drives • Function Points • Function Point Complexity Factors • Bottom-Up Estimation • Performing PERT Analysis on WBS Tasks • Cost Control		
6	02/22	**Project Quality Management** • Tools and Techniques for Quality Planning • Tools and Techniques for Quality Assurance • Tools and Techniques for Quality Control • Pareto Diagrams • Statistical Sampling **Project Risk Management** • Software Engineering and IT Projects • Risk Management Life Cycle • Risk Management Process • Qualitative and Quantitative Risk Analysis • Risk Response Planning • Risk Monitoring and Control **(In-Class)**	Kanabar & Warburton, Chapter 11 PMBOK Guide, Chapters 8 – 9 Kanabar & Warburton, Chapters 6 – 8 PMBOK Guide, Chapters 10 & 12	Scope Statement
7	03/01	**STUDY BREAK**		
8	03/08	**SPRING BREAK**		

9	03/15	**Mid-term**		
10	03/22	**Case discussion:** The Runaway Project: A Large IT Project Goes Wrong - 3021BC-PDF-ENG **Project Communications Management** • Summary of Launch Deliverables • Communications Management Plan • Sample Communications Plan • Stakeholders • Distribution Methods • Communication Channels • Communication Theory **(In-Class)**	Kanabar & Warburton, Chapter 10 PMBOK Guide, Chapter 11	Cost Estimation Mini Software Assignment # 2
11	03/29	**Project Procurement Management** • Planning Purchases and Acquisitions • Contracts • The Contract Statement of Work • Planning Contracting • Requesting Seller Responses and Selecting Sellers • Contract Administration **Project Human Resource Management** • Human Resource Planning • Stages in team formation • Team Building		

		• Manage Project Team • Conflict Management		
12	04/05	**An Introduction to Agile Project Management** • Traditional vs. Agile Methods • Agile PM • Optimization vs Adaptation • Changing landscape of Project Management • Principles of Agile Development • Agile Benefits • Agile Methods **Agile PM in action: Scrum** • Roles and Responsibilities • Scrum Process • Key artifacts of the Scrum Process • The role on Scrum teams • Applying Agile PM to large Projects • Limitations and Concerns **Case discussion:** Jharna Software: The Move to Agile - HKU613-PDF-ENG	Goncalves and Heda, Chapter 1, 2, 3 and 4	
13	04/12	**ITIL** **PRINCE2**		

		International Projects
		
		• Environmental Factors
		  • Legal/Political
		  • Security
		  • Geography
		  • Economic
		  • Infrastructure
		  • Culture
		• Project Site Selection
		• Cross-Cultural Considerations: A Closer Look
		  • Adjustments
		  • Working in Mexico
		  • Working in France
		  • Working in Saudi Arabia
		  • Working in China
		  • Working in the United States
		  • Culture Shock
		  • Coping with Culture Shock
		  • Selection and Training for International Projects		

14	04/19	**Project / Study Break**		
15	04/26	**Project Presentations** **Final Examination** **(In-Class)**		

Grading

In accordance with the school's grading system and policy each student will receive a grade from A (4.0) to F. These grades will be determined based on the following:

Assignment	Points
Class Participation/Attendance	10
Term Project	50
Mini-Software Assignments (2)	10
Mid-Term	15
Final	15
Total Points	100

** Class participation means regular attendance, being prepared for in-class case study reviews, and regularly contributing to classroom discussions.

** Always submit your best work on the scheduled due date. Re-work or Extra-credit work is not an option.

Term Project

Students will be responsible for finding a suitable short-term project for use in a semester-long group project exercise. The assignment will include three different sections, due on three different weeks throughout the term. Approval of your selection is required by January 25th **(submit a brief description by email)**.

You will be required to define your project, plan the tasks thoroughly using Microsoft Project, and report on project progress during pre-scheduled stages of the project life-cycle. An end-of-class project presentation will be required from each group.

Scoring:	Term Project Assignment #1	Project Charter	10 points
	Term Project Assignment #2	Project Scope Statement	10 points
	Term Project Assignment #3	Project Cost Estimation	10 points
	Term Project Assignment #4	Final Project Presentation	20 points

Description of Term Project Assignments

1. Term Project Assignment #1 - Project Charter:

Due Date: Before start of class - 02/08:

Project Charters will be written to initiate a hypothetical project. Components include a Statement of Business Purpose, Project Description, Summary Milestone Schedule, Deliverables, Stakeholders List, and Initial Budget Estimates. A Sample Project Charter is posted on Blackboard.

Project Charters will be graded and returned within fourteen days following the due date.

2. Term Project Assignment #2 – Project Scope Statement:

Due Date: Before start of class – 02/22:

Project Scope Statements will be written to further the initiation and planning of a hypothetical project. Project Charter documents submitted earlier will be used as input and additional sections will be added. A Sample Project Scope Statement is posted on Blackboard.

Project Scope Statements will be graded and returned within fourteen days following the due date.

3. Term Project Assignment #3 – Project Cost Estimation:

Due Date: Before start of class – 03/22:

Estimate the cost or effort associated with your project using the following four methods:

Method 1: Use either the Experience/Analogy or Delphi method to estimate the effort. Explain how you arrived at your numbers.

Method 2: Use the PERT method (Three-Point method, top-down method) to estimate.

Method 3: Use a detailed bottom-up method (WBS) by listing all the tasks associated with your project.

Relevant articles and a sample are posted on Blackboard.

Project Cost Estimation will be graded and returned within fourteen days following the due date.

4. Term Project Assignment #4 – Final Project Presentation:

Due Date: Before start of class – 04/26:

TEAM PROJECT and PRESENTATION -- At the completion of this course each Project team will submit a written report conforming to the following outline, as well as to prepare and present a slide presentation that follows the presentation outline shown below.

These presentations, and reports, are to be thought of as Project Status Reports to management. Teams are to prepare data and presentation representative of a point in time BEFORE the completion of the project.

Project Report:

Part A: Project Overview

a. Team members
b. Mission, Description, Key Functions of project (brief)
c. Impact of the project (or impact of not doing it) on the:
    i. Company/Organization
    ii. Environment – if applicable
    iii. Client/Customers
    iv. Other…

Part B: Project Summary

d. Scope Statement
e. Project Priorities
f. WBS – to Work Package level
g. Network Diagram – Identify Critical Path
h. Responsibility Matrix
i. Cost/Budget – include Time-Phased graph
j. Gantt Chart – Identify Slack

Part C: Conclusion

Identify any Issues, Risks, or Constraints you believe affect your project. What can you do about these? What is your probability of success? Will you deliver: On Time? On Budget? All your Scope? If not, what might you do to remedy the situation?

Presentation:

Presentation Outline*: (approx 12-15 minutes)*

- Project Overview (1 – 2 slides)
    - Team
    - Mission, description of project
    - Impact of project
- Project Summary
    - Scope
    - Work-Breakdown Structure
    - Network Diagram – including Critical Path
    - Responsibility Matrix
    - Cost/Budget
    - Gantt Chart, including
        - WBS
        - Task
        - Work
        - Duration

        - Slack
        - Start/Finish
        - Resource(s)
        - Dependencies
- Current Status
    - Calendar (Schedule)
    - Work-to-Date completed
    - Issues, Risks, Constraints
    - Forecast

MS Project Mini Software Assignments: (Kindly print in one page)

Two software assignments relating to Microsoft Project 2007/ 2010** will be required for out-of-class completion. These assignments are aimed at increasing your competency with Microsoft Project. Each student will be required to hand-in their own work, printed from Microsoft Project 2007/ 2010 software.

** Full license copies of MS Project 2007 / 2010 will be provided to each student for a no-cost, one-time download. **You must have a BU email address to receive the free software.** Demo versions will not satisfy course assignments.

1. Mini Software Assignment #1:

Due Date: Before start of class – 02/08:

Details are posted on Blackboard. Mini Software Assignment # 1 will be graded and returned within fourteen days following the due date.

2. Mini Software Assignment #2:

Due Date: Before start of class – 03/22:

Details are posted on Blackboard. Mini Software Assignment # 2 will be graded and returned within fourteen days following the due date.

Mid-term and Final Examination:

There is a Midterm and a Final examination that will require you to utilize the knowledge and skills acquired in the first and second half of the class respectively.

Blackboard

Course assignments and many in-class overheads will be posted on Boston University's Blackboard 8 website (http://blackboard.bu.edu). Students should check this site regularly for course messages or to locate assignments. The instructor will also use the 'BU email' account associated with Blackboard to

make emergency contact with students. Students should have their 'BU email' account forwarded to their primary email, to ensure timely communication.

Due Dates

Assignments are due as noted on the above class schedule. Late assignments will be penalized. Please keep within page limits, if applicable.

Grading Process

Grading will follow the Boston University Metropolitan College's Academic Policy Committee's recommendations, where 60% of the grades for the course will fall in the B+/B/B- range, and the remaining number falling equally in the A/A- (20%) range and the C+/C/C- range(20%).

Academic Conduct Policy

For the full text of the academic conduct code, please go to http://www.bu.edu/met/metropolitan_college_people/student/resources/conduct/code.html.
The college's policy on plagiarism and other forms of cheating are clear and described in the current bulletin. I take this issue quite seriously and both the policy and consequences will be enforced.

MSDN Academic Alliance Software Center

MET College is a member of the MSDN Academic Alliance, which allows faculty, graduate and undergraduate students currently enrolled in MET courses to obtain certain Microsoft products free of charge.

You can obtain many types of Microsoft software free of charge from the Microsoft Developer Network Academic Alliance (MSDNAA) Program. By the first day of class your instructor will submit your BU email address to Microsoft to enroll you in the program for the current semester. You will receive an email from the MSDNAA E-Academy License Management System (ELMS) from the address: elms_support@e-academy.com.

Some spam filters may direct this email to a junk email folder, so you may want to check your junk email folder or add the address above to your contacts or other white list. The email will provide you with a username and password, and direct you to the MSDNAA site :
URL: http://msdn04.e-academy.com/elms/Storefront/Storefront.aspx?campus=bu_mccs

FAQ and basic information are at: http://csmet.bu.edu/AASC/index.htm

If you do not receive your email by the second day of class, first check your junk email folder and then please send an email explaining that you did not receive your MSDNAA credentials for this course. Include your name and bu.edu email address in the email and send it to MSDNAA@bu.edu.

General software you may be required to use in this course include word processing, spreadsheet, and presentation software, such as the Word, Excel, and PowerPoint applications in Microsoft Office. If you use Microsoft Word 2007, please use the Save As feature to save your documents in the earlier Microsoft Word 2003 (.doc) format for posting in the class, rather than the XML-based (.docx) MSWord 2007 format, so that your classmates who do not have MSWord 2007 can read them without installing the converter.