

701 Project Management Methods

Introduction

701 PROJECT MANAGEMENT METHODS is designed to equip students with the essential skills and knowledge to effectively manage projects. The subject will impart practical knowledge to enable students to provide deliverables in less time, at less cost, at a preferable quality level and within the agreed scope. The in-depth treatment of the full project lifecycle spans the definition of a project through to the project's closure. The subject is closely modelled upon the Project Management Body of Knowledge (PMBOK) established by the Project Management Institute (PMI), the most widely-recognised professional body for project management.

Case studies

Real-life case studies are incorporated into the subject to provide opportunities for students to apply theory into practice in an authentic context. Examples of cases include

Wheelwright, S.C. and G.K. Gill
Motorola Inc.: Bandit Pager Project
 Case #9-690-043
 Harvard Business School Publishing
 19 December 1989

Applegate, L., R. Montealegre and C.I. Knoop
BAE Automated Systems (B): Implementing the Denver International Airport Baggage-Handling System
 Case #9-396-312
 Harvard Business School Publishing
 9 October 2001

Mead, M. and J. Linder
Frito-Lay, Inc.: A Strategic Transition (A)
 Case #9-187-065
 Harvard Business School Publishing
 19 January 1988

Who should attend

- Executives wishing to enhance their project management skills
- Supervisors in charge of planning, co-ordinating and implementing tasks
- Managers preparing to sit for the Project Management Professional (PMP) examination conducted by the PMI

Learning objectives

Upon completion of this subject, students should be able to

- describe and understand the key characteristics of a project
- advance through the different stages of a project management life cycle
- establish budgets, assign resources, draft proposals and implement plans
- conduct meetings, establish reporting mechanisms and design communication plans
- handle and manage risk in projects
- close projects in a systematic manner

Delivery method

The subject is delivered online over a 12-week period, with an assigned Professor acting as mentor. The class will comprise students from different countries and industry backgrounds. Practical case studies and discussions help to stimulate learning and knowledge exchange, while an examination at the end of the subject will help students review and apply the knowledge and skills learnt.

Assessment

Case analyses (team and individual)	45%
Discussion board activities	30%
Final Exam	25%

Prerequisites

None

Syllabus

Segment 1: Introduction

Students are introduced to the syllabus, the resources and communication tools available within the course.

Segment 2: Contemporary Issues

Students discuss contemporary issues facing project managers. The roles and responsibilities of the project manager, the project management office (PMO) and project-based organisations are reviewed. Students examine how different organisational structures, such as the pure organisation, functional organisation and matrix organisation, affect projects. The concept of the project management maturity model (PMMM) is also introduced.

Segment 3: Defining a Project

The segment defines factors unique to project work, identifying key objectives and deliverables. To help balance the competing objectives of scope, time, cost and quality, students are encouraged to develop an awareness of why and how projects are selected for funding. In the defining phase of a project, students learn how to prepare a Project Overview which charts out the general project plan and sets out overall project priorities, formalising major stakeholder approval.

Segment 4: Planning a Project

In the planning phase of a project, students identify all the work required to complete the project by developing a Work Breakdown Structure. This process involves the actual detail of planning a project and introduces students to project planning software, such as Primavera Project Planner for the Enterprise/Construction (P3E/c). Students apply scheduling logic, precedence diagramming and identify the critical path through the program evaluation review technique (PERT), critical path method (CPM) and Gantt chart. These tools help to establish a budget for the project and develop a formal project proposal or detailed project plan.

Segment 5: Organising a Project

Students explore methodologies useful in organising projects and selecting project teams. In the organising phase of a project, the project manager, project team and organisational structure will determine the style of management. Students learn how to assign resources based on available skills, budget and time, and to evaluate the results of such decisions. Specifically, students learn to assign personnel, estimate resource loading and perform resource levelling using tools such as P3E/c.

Segment 6: Controlling a Project (I)

An effective project manager should set overall project priorities, be willing to take risks, mediate, negotiate, build and motivate a strong team and be a true leader for the project. In the controlling phase of a project, management style and effective communication and co-ordination play important roles. Students are introduced to some of the metrics that can be implemented to control a project, such as the cost performance index (CPI), schedule performance index (SPI), schedule variance (SV) and cost variance (CV). Other control tools, such as meeting and reports, will also be covered.

Segment 7: Controlling a Project (II)

In the controlling phase, risk management will be tackled, as well. Students learn how to quantify and qualify risk in a project, use filters in project scheduling, and plan for contingencies and mitigation strategies. Computer simulation will be introduced as one of the risk management tools. Students explore alternative methods of project-crashing and fast-tracking, and understand the importance of issuing and executing change orders.

Segment 8: Closing a Project

The closing phase of a project concludes the project management life cycle. The successful installation of a deliverable involves obtaining major stakeholder acceptance and sign-off of the project. Students also need to perform an assessment or post-mortem review, to learn from failures and successes, as well as to establish best practices. This culminates with the writing of a final project report and archiving of project files.

Required textbook

Meredith, J.R. and S.J. Mantel. *Project Management: A Managerial Approach* (6th ed). John Wiley, 2006.

Global Faculty

Subject Authors

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U21Global subjects are created by acknowledged experts in their field, usually senior academics who have strong understanding of postgraduate requirements. The subject content is further reviewed by academic specialists who appraise the subject from an independent perspective, ensuring a high-quality, professional product.

701 PROJECT MANAGEMENT METHODS was created for U21Global by **James Patterson**, Professor of Operations and Decision Technologies at the Kelley School of Business, Indiana University and **Jodi Brinson**, a Certified Project Management Professional. Dr Patterson, who has a DBA from Indiana University, has taught at the University of Missouri-Columbia and Penn State University. His research interests are in project management and mathematical programming, specifically in algorithm design for solving special structured integer programming problems. Ms Brinson boasts extensive experience in the transportation, eCommerce and software development industries, including a key role in the US Amtrak high-speed train project.

The subject was reviewed by **Jack Meredith**, Professor of Management, Broyhill Distinguished Scholar and Chair in Operations at the Babcock Graduate School of Management, Wake Forest University. Dr Meredith has worked for Hewlett-Packard, Douglas Aircraft and TRW Systems Group, and consulted for the National Research Council (Washington), Institute of Advanced Manufacturing Services (Cincinnati) and Digital Equipment Corp. He is the author of over half a dozen books on operations management, project management and management science, and has received numerous teaching and research awards. He earned his PhD in Business and MBA at the University of California, Berkeley.

Our Professors

Students' progress will be guided by dedicated Professor Facilitators based around the world. They provide an international perspective and impart knowledge through a wealth of experience in their field of specialisation. Our Professor Facilitators will help students make sense of the information to enable students to transform the information into knowledge and creative solutions.



Anwar ALI

Anwar Ali is a director at the Institute of Management Technology, Nagpur since 2005. Prior to that, he was Professor of Operations Management at the Management Development Institute (MDI), Gurgaon, India, in 1996-2005. He has taught at Xavier Institute of Management, Bhubaneswar and the Goa Institute of Management in India. Dr Ali has strong industry credentials. He held senior managerial positions and consulted with several private and public sector corporations, as well as government organisations, in the areas of quality, vendor management, productivity enhancement, organisational restructuring and project management. He has a PhD and a PGDM (MBA) from the Indian Institute of Management, Calcutta, and his M.Tech and B.Tech are from the Indian Institute of Technology, Kanpur.



Martin ER

Martin Er is the CEO of Agent Technology Ltd, a solutions provider for supply chain visibility software and networks. A former Professor of Computing at the Faculty of Business, Auckland University of Technology, Dr Er has close to 15 years of experience as a full-time academic. He has taught at universities in Australia, New Zealand, the UK and Ireland. His research interests include Internet banking and eBusiness, decision support systems, strategic information systems, computer graphics and multimedia, algorithms, programming methodology and software engineering. Dr Er earned his PhD in Computer Science from the University of Essex, UK.