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**CENTRE FOR ONLINE LEARNING**  
PIMPRI, PUNE

**SYLLABUS FOR**  
**MASTER OF BUSINESS**  
**ADMINISTRATION**  
**(M.B.A)**

**Academic Year 2025**

### **Semester-III Project Management Specialization**

<b>Semester</b>	3	<b>Course Credits</b>	4	<b>Specialization</b>	Project Management
<b>Course Code</b>	OMBP-301			<b>Type</b>	Specialization Course
<b>Course Title</b>	Fundamentals of Project Management (FPM)				

#### **Course Description:**

This course trains scientists and managers in the practical application and modern tools and techniques of planning, scheduling, monitoring, and control of multiple projects.

#### **Course Objectives:**

- 1) To provide the students with a holistic, integrative view of projectmanagement;
- 2) To highlight the role of projects in modern day business organizations;and
- 3) To sensitize the students to complexities of projectmanagement.

#### **Course Outline:**

**Unit 1: Understanding the Project:** Introduction to Project, Projects in different fields, Classification of Projects, Project Classification Based on nature of Project, Characteristics of Project.

**Unit 2: Project Management:** Need for Project Management, Project Management Objectives, The Value of Project Management, Characteristics of Project Management, Phases in Project Management, Approaches to Project Management, Project Processes

**Unit 3: Project Management Content:** Introduction to Project Management Contents, Project Management Life Cycle, Business Case, Project Management Resources.

**Unit 4: Project Finance and Evaluation:** Projects Finance, Estimation of Time & Costs in Project, Project Evaluation Using Cost Benefit Analysis, Feasibility Study, PESTEL Analysis.

**Unit 5: Project Planning:** Projects planning Cycle, Project Planning Tools.

**Unit 6: Project Organizing:** Creating Organization Structures, Types of Organization Structures, Specialized Organization Structures, Projects Organizing Process, Project Management Office.

**Unit 7: Project Scheduling and Control:** Project Scheduling Inputs, Project Scheduling Process, Concurrent Project Management, Multi-tasking, Project Crashing, Project Controlling, Earned Value Management, Project Accounting, Project Resource Management, Resource Leveling.

**Unit 8: Project Quality:** Understanding Quality, Cost of Quality, Project Quality Costs, Dimensions of Project Quality, Project Quality Plan, Components of a Project Quality Plan, Planning for Project Quality, Quality Control in Projects, Implementing Quality Control, Total Quality Management, ISO Standard on Project Management.

**Unit 9: Project Contract:** Understanding Contract, Elements of Contract, Contract Management, Types of Contract, Contract Process, Defining SOW for Project, Project Contracts from Financial Perspective, Sub-Contracting in Projects, Employer's Involvement in Sub- Contracts.

**Unit 10: Project Procurement:** Procurement Process, Procurement System, Acquisition Process, Procurement Performance, Procurement Methods, Purchasing, Turnkey projects, Planning for Procurement, Selecting Supplier for Project, RobinsonModel.

**Unit 11: Project Closing:** Purpose of Project Closing, Elements of Project Closing, Turnover of Projects, Lessons Learned, Project Close-Out Report, Post Implementation Review, Analyzing Project Results, Responsibilities of Project Leader, Project Closure Activities as Given By PMP.

**Unit 12: Project Risk Management:** Risk management Concept, Principles of Risk Management, Risk Identification, Risk Assessment, Hierarchy of Risk, Risk Options, Risk Management Plan, Areas of Risk Management, Project Risk Management Process, Positive Risk Management, Risk Communication.

**Unit 13: Special Cases in Project Management:** Event Chain Methodology, Agile Project Management, Extreme Project Management, Software Project Management, Software Prototyping, V-Model, Spiral Model, Rapid Application Development, Dynamic Systems Development Method, Rational Unified Process, Test-Driven Development, Feature-Driven Development, Benefits Realization Management, Critical Chain Project Management.

### Course Outcome:

On successful completion of the course the learner will be able to:

CO#	Cognitive Abilities	Outcomes
CO301.1	<b>Remember</b>	Learn the various stages of project life cycle.
CO301.2	<b>Understand</b>	Understand the resources needed in each stage of project life cycle.
CO301.3	<b>Analyse</b>	Easily analyse the cost analyses for project to be done.
CO301.4	<b>Evaluate</b>	Acquire the skill of completing project depending on the task length.

**Suggested Reading:**

1. Project Management Body of Knowledge, Book by Project Management Institute
2. Originally published: 1996, Author: Project Management Institute, ISBN: 978-1-62825- 184-5
3. The Art of Project Management, Book by Scott Berkun
4. Project Management: A Systems Approach to Planning, Scheduling, and Controlling by Harold Kerzner(Author)
5. Project Management for the Unofficial Project Manager: A Franklin Covey Title, Book by James Wood, Kory Kogon, and Suzette Blakemore

DU-COL MBA SYLLABUS

Semester	3	Course Credits	4	Specialization	Project Management
Course Code	OMBP-302			Type	Specialization Course
Course Title	Project Planning and Scheduling (PPS)				

### **Course Description:**

No matter how large or small construction project, an efficient, well-thought-out schedule is crucial to achieve success. The schedule manages all aspects of a job, such as adjusting staff requirements at various stages, overseeing materials deliveries and equipment needs, organizing, inspecting, and estimating time needed for curing and settling- all of which requires a deep understanding on the part of the scheduler.

### **Course Objectives:**

- 1) Steps needed to devise a technologically advanced schedule geared toward streamlining the construction process;
- 2) Calculations needed by project schedulers, particularly related to timemanagement;
- 3) Precedence networks as a viable solution to scheduling, the main part of projectcontrol;
- 4) The concepts of Dynamic Minimal Lag, a new CPM technique;and
- 5) Risk management techniques in the areas of project scheduling andcontrol.

### **Course Outline:**

**Unit 1: Project Planning & Scheduling:** Concept of Project, Characteristics of Projects, Project Planning, Importance of Project Planning, Difference Between Project Plan and Schedule, Types of Project, Project Management Life Cycle, Work Breakdown Structure.

**Unit 2: Project Planning/Scheduling Techniques:** Scheduling Techniques, Calendar Scheduling, Milestone Chart, BAR Chart, Gantt Chart, Line of Balance.

**Unit 3: Network Techniques– CPM/PERT- I:** Concept, The Framework for PERT and CPM, CPM Scheduling, PERT Scheduling.

**Unit 4: Networking Techniques– CPM/PERT- II:** Forward Pass, Backward Pass, Finding The Critical Path, Float, Limitations of PERT/CPM, Application of PERT/CPM, Advantages of PERT/CPM.

**Unit 5: Network Technique for Probabilistic Time:** Projects of Uncertain Activity Time, Framework of PERT, Computation of likely project duration and Variance.

**Unit 6: Precedence Diagramming Method:** Development of PDM, Types of Dependency, Concept of

PDM, Constructing Precedence Diagram, Features of PDM, Benefits of PDM, Steps in PDM, Tools Used to Create a Precedence Diagram.

**Unit 7: Resource Scheduling:** Project Constraints, Resource Constraints, Resource Allocation, Resource Aggregation, Resource Leveling, Resource Leveling Techniques, Resource Allocation and Resource Leveling, Resource Smoothing, Benefits of Resource Scheduling, Multitasking, Resource Allocation in Multi Project Scheduling.

**Unit 8: Project Crashing:** Concept of Crashing, Objectives, Need for Crashing, Approach, Steps for Crashing, Fast tracking, Criteria for Crashing, Risks of Project Crashing.

**Unit 9: Critical Chain Scheduling:** Concept, Parkinson's Law, Safety in Activity Duration, Multitasking, Buffer, Theory of Constraint, Multi Project Environment, Steps in Critical Chain Scheduling, Implementation Aspects.

**Unit 10: Project Performance Measurement and Control:** Project Performance Management Process, Designs and Monitoring Framework, Project Process Control, Earned Value Management, Performance Targets and Indicators, Project Risks, Project Quality, Project Performance Management with Six Sigma.

**Unit 11: Projects Planning and Scheduling in Service Organizations:** Characteristics of Service Business, Project Planning in Service Industry, Effect of Poor Project Planning in Service Industry, Operation Planning in Entertainment Business, Project Planning and Scheduling in IT Industry, Project Planning in Social Service, Project Planning in Health Care, Project Planning in Sports.

**Unit 12: IT for Project Planning:** Project Management Software, Software Selection, Benefits of Use of Software, Project Planning Software Programs, Project Scheduling Software, Gantt Chart in Excel, Software for Small Business, MS Project, Features of MS Project, Primavera.

### **Course Outcome:**

On successful completion of the course the learner will be able to:

CO#	Cognitive Abilities	Outcomes
CO302.1	<b>Remember</b>	Learn the steps towards streamlining the construction process.
CO302.2	<b>Understand</b>	Understand the aspect of time management.
CO302.3	<b>Analyse</b>	Analyse critical path method techniques to remove time conflict.
CO302.4	<b>Apply</b>	Apply project scheduling and control in work design.

**Suggested Reading:**

- 1) Microsoft Project 2013 Plain & Simple by BenHoward
- 2) Planning and Scheduling using MS Project 2010 by PaulHarris
- 3) Oracle Primavera P6 Version 8: Project and Portfolio Management by Daniel Williams and Elaine BrittKrazer
- 4) Computer-aided Project Management by GeorgeSuhanic

DPU-COLMBA SYLLABUS

Semester	3	Course Credits	4	Specialization	Project Management
Course Code	OMBP-303			Type	Specialization Course
Course Title	Business Laws and Regulations (BLR)				

### **Course Description:**

The objective of this course is to enable students understand the legal framework of business.

### **Course Objectives:**

- 1) Law of Contract -1872 (Part-I): Nature of contract and essential elements of valid contract, offer and acceptance, consideration, capacity to contract, free consent, and legality of object;
- 2) Law of Contract-1872 (Part-II): Unlawful and illegal agreements, contingent contracts, performance and discharge of contracts, remedies for breach of contract;
- 3) Special Contracts: Indemnity and guarantee, contract of agency, Sale of Goods Act - 1930: General Principles, Conditions & Warranties, Performance of Contract of Sale;
- 4) Indian Partnership Act-1932: Constitution of partnership- Rights, duties and liabilities of partners, dissolution of partnership;
- 5) Negotiable Instruments Act - 1881: Negotiable Instruments- Promissory note, bills of exchange & cheque and their definitions and characteristics, types of endorsements, Holder- holder in due course, discharge of parties;
- 6) Companies Act, 1956: Steps and procedure for incorporation of the company, Company Management-appointment of directors, powers, duties, & liabilities of directors, company meetings, resolutions, winding-up of a company.
- 7) Income Tax Act -1961 - Important provisions of Income Tax Act: assessment year- assessee, gross total income, procedure for advance payment of tax and tax deducted at source, and assessment procedure.
- 8) Central Excise Act -1944: Basic concepts related to excisable goods, classification of goods, and basic concept of VAT.

### **Course Outline:**

**Unit 1: Introduction:** Business Law, Constituents of Business, Meaning and Nature of Law, Sources of Indian Law, Concept of Artificial Legal Entity, Concept of Legal Rights, Concept of Property, Kinds of Property, Concept of Ownership and Possession, Essentials of Law.

**Unit 2: Contract Law- 1:** Contracts, Essentials of Valid Contract, Void, Voidable and Valid Agreements.

**Unit 3: Performance of Contract, Remedies and Special Contracts:** Performance of Contract, Contingent Contract, Quasi Contract, Remedies and Breach of Contract, Contracts of Agency, Contracts of Guarantee, Contracts of Indemnity, Letter of Credit Contracts, Employment Contracts, Indemnification.

**Unit 4: Law on Special Contracts under Allied Laws:** Partnership and Sale of Goods Act.

**Unit 5: Company Law 1:** Kinds of Company and Registration of Company, Memorandum of Association, Articles of Association, Prospectus, Share, Debenture, and Capital.

**Unit 6: Company Law – II:** Membership, Directors, Shareholders Meeting, Ordinary and Special Resolutions, Compromise, Arrangement and Reconstruction, Winding Up.

**Unit 7: Law on Alternate Dispute Resolution:** Law on Arbitration and Conciliation in India, Lok-Adalats.

**Unit 8: Law on Consumer Protection:** Consumerism, Object, Definition, Consumer Dispute Redressal Mechanism.

**Unit 9: Right to Information:** Object and Evolution, Historical Background, Basic Features of the Act.

**Unit 10: Information Technology Law:** Introduction and Offences.

**Unit 11: Intellectual Property Law:** Evolution of the Patent System, Introduction to Copyright Law, Moral Rights or Droit Moral, Introduction to Trademark Law, What is a Trademark, Other Types of Intellectual Property.

**Unit 12: Competition Laws:** Monopolies and Restrictive Trade Practices Act- 1969, Competition Act- 2002, Anti-Competitive Agreements, Acquisition, Merger and Amalgamation, Competition Commission of India.

### **Course Outcome:**

On successful completion of the course the learner will be able to:

CO#	Cognitive Abilities	Outcomes
CO303.1	<b>Remember</b>	Easily learn the various acts pertaining to laws of business
CO303.2	<b>Understand</b>	Understand the laws related to business activities
CO303.3	<b>Analyse</b>	Analyse the business with government policies.
CO303.4	<b>Create</b>	Generate documentation to start new project.

**Suggested Reading:**

- 1) The Indian Patent Act as Amended In2005.
- 2) The Indian Patent Act 1770 (AsAmended).
- 3) UK Copy RightAct.
- 4) The Copy Right Act1957.
- 5) The Trade Marks Act1999.
- 6) Jon Holyoak and Paul Torremans : Intellectual Property Law
- 7) Stobbs, Gregory A, Software Patent Worldwide
- 8) Coppinger, Copyright (All Volumes) 15<sup>th</sup> Edition, London: Tottel Publishing 2006
- 9) Anson's Law of Contract.
- 10) Prof. G C V Subba Rao, Law of Contract I and II.

DPU-COLMBA SYLLABUS

Semester	3	Course Credits	4	Specialization	Project Management
Course Code	OMBP-304			Type	Specialization Course
Course Title	Project Finance & Budgetary Control (PFBC)				

### **Course Description:**

This course will help students understand the "macro" big picture and "micro" line item context and trends of finance, as well as the mechanics of developing budgets. It will give the students the necessary tools to make sound financial decisions for their business Unit. Whether the goal is to stay on budget, increase overall cost savings or meet specific profitability targets, real-world exercises will help them become familiar with the standard financial documents, and use the budget and estimating methods and tools more effectively. Specifically, they will review and discuss commonly used financial metrics to not only understand the numbers, but also to explore the not-so-obvious financial impacts of typical operating decisions and actions from a project to organizationallevel.

### **Course Objectives:**

- 1) To be able to describe the concept, components of project finance, and the linkage between planning, analysis, and selection of project;
- 2) To know the key parties to a project financing and the documentation process involved in it;
- 3) To gain knowledge of sources of finance available for projects;
- 4) To describe the strategies employed in managing risk; and
- 5) To be able to solve simple cases.

### **Course Outline:**

**Unit 1: Introduction to Project Finance:** Characteristics of a Project, What is Project Finance?, Essentials of Project Financing, Importance of Project Financing, Project Financing Structures, Project Financing in India, Key Parties to a Project Financing, Key Documents in a Project Financing, Risks in Project Financing.

**Unit 2: Projects- Financial Structuring:** Common Objectives of the Project, The Promoters Role, Capital Investment Decision, Investment Criteria.

**Unit 3: Projects – Sources of Finance:** Sources of Capital.

**Unit 4: Project Financing- Cost of Capital:** Introduction, Investors in a Project, Financing Decision,

Definition of Cost Capital, Measurement of Cost of Capital, Cost of Debt, Cost of Equity, Cost of Retained Earnings, Weighted Average Cost of Capital (WACC), Financing Structure.

**Unit 5: Projects- Market, Technical & Financial Feasibility:** Market Feasibility, Technical Feasibility, and Financial Feasibility.

**Unit 6: Financial Estimates and Projections:** Objectives of Financial Statements, Users of Financial Statements, Profit & Loss Statement/Operating Statement, Balance Sheet, Funds Flow Statement, Cash Flow Statement, Ratio Analysis, Significance of Ratio Analysis, Limitations of Ratio Analysis.

**Unit 7: Projects- Lenders' Appraisal:** Financial Feasibility Analysis, Technical Feasibility Analysis, Economic Feasibility Analysis, Management Competency Appraisal, Risk Analysis by Lenders, Restrictive Covenants, Non-Recourse and Recourse Financing, Why do Projects Fail?

**Unit 8: Project Risk Analysis:** Sources of Risk, Project Risk Identification, Operating Risk, Risk Management.

**Unit 9: Financing Infrastructure Projects:** Characteristics of Infrastructure Finance, Infrastructure Project Finance vs. Traditional Finance, New Approach for Infrastructure Projects, Infrastructure Project Finance— Advantages, Infrastructure Project Finance— Participants, Financing Mechanism, Steps in Infrastructure Project Finance, Risks and Its Mitigation.

**Unit 10: Budgetary Control:** Definition of Budgetary Control, Advantages and Limitations of Budgetary Control, Types of Budget, Master Budget, On the Basis of Capacity, Preliminaries in the Installation of Budget System.

**Unit 11: Standard Costing:** Meaning of Standard Costing, Relation Between Budgetary Control and Standard Costing, Advantages of Standard Costing, Disadvantages of Standard Costing, Suitability of Standard Costing as a Management Tool, Relationship of Standard Costing and Budgetary Control.

**Unit 12: Variance Analysis:** Material Variances, Labour Variances, Overhead Variances, and Sales Variances.

**Unit 13: Zero-Base Budgeting, Performance Budgeting:** Basic Steps in the Implementation of Zero Base Budgeting, Advantages of Zero-Base Budgeting, Disadvantages of Zero Base Budgeting, Performance Budgeting, Steps in Performance Budgeting.

**Unit 14: Capital Budgeting Methodologies:** Meaning of Capital Budgeting, Capital Budgeting Methodologies.

### **Course Outcome:**

On successful completion of the course the learner will be able to:

CO#	Cognitive Abilities	Outcomes
CO304.1	<b>Remember</b>	Learn the basic concepts of project finance.
CO304.2	<b>Understand</b>	Understand documentation process pertaining to project finance.
CO304.3	<b>Apply</b>	Able to select a project by understanding the basic concept.
CO304.4	<b>Evaluate</b>	Differentiate risk and returns with strategic analyses.
CO304.5	<b>Analyse</b>	Grab the opportunities with available project.

### **Suggested Reading:**

1. Projects- Planning, Analysis, Selection, Financing, Implementation and Review by Prasanna Chandra; Tata McGraw-Hill Publishing Co. Ltd. 7th Edition.
2. Project Management by Bhavesh Patel; Vikas Publishing House Pvt. Ltd. 2nd Edition.
3. Financial Management by Ravi M. Kishore; Taxman Allied Services(P) Ltd. 6th Edition.
4. Banking Strategy, Credit Appraisal and Lending Decisions by Hrishikesh Bhattacharya; Oxford University Press.

Semester	3	Course Credits	4	Specialization	Project Management
Course Code	OMBP-305			Type	Specialization Course
Course Title	Project Performance Measurement & Control (PPMC)				

### **Course Description:**

This course provides students with an overview of project management, focusing on project initiation and control. A discussion of the different types of projects, the project life cycle as well as the intricacies of defining and monitoring project resources, cost, scope, and schedule – through work breakdown structures, the precedence diagramming method, and earned value analysis among other tools – is included. Popular project management software will also be introduced.

### **Course Objectives:**

- 1) Understand what a project is, the project life cycle, stakeholders and roles, challenges and importance of project management;
- 2) Learn and apply the tools and techniques in initiating and planning a project such as estimating the project budget and cost, developing a project plan, developing a project schedule, management of risks, preparing project proposals, mobilizing the project resources, and evaluating which project to select;
- 3) Learn and apply different project management processes, tools and techniques from executing, monitoring and controlling up to project closure; and
- 4) Put together a proposal for a project and present a business case.

### **Course Outline:**

**Unit 1: Project Management Basic Processes:** Project Management Five Basic Process Groups, Critical Characters of Control Systems, Characters of Management Control, Concept of Management Control from Historical Perspective in Management Literature, Concept of Management Control, Important Attributes of Management Controls, Project Monitoring & Controlling Processes, Project Controlling and Project Control Systems, Principles of Management Control System 26, The Significance of Control, Steps in Setting up Control Systems-Process Flow.

**Unit 2: Project Controls: What is it and Why is it Important?:** Importance of Project Controls, What Is Project Control?, Why is Project Control Important?, Factors That Cause Project Change, Project Control Critical Function for Project Success.

**Unit 3: Introduction: Project Performance Management Systems:** The Objectives of Performance Management System, Journey from Capacity to Excellence, The Main Attributes of PMCS, The Additional Activities for Setting up the Proposed System, Performance Management (Measurement & Control) Cycle.

**Unit 4: Project Failures a Challenge for Project Management Professionals:** Introduction to Causes of Project, Causes of Project Failures (PMI Survey Results), Issues that Need Attention to Avoid Project Failures, Organizational Issues that Need to be Addressed to Avoid Failures of Projects, How to Prevent ProjectFailure-Actions.

**Unit 5: Project Teams & Impact of Teams on Project Performance:** The Differences Between Teams & Groups, Why do We Need Teams Especially for Project Organizations?, The Basic Issues in Team BuildingAre?

**Unit 6: Project Management and Earned Value:** What is Earned Value?,The Secrets to Earned Value Management Success, Earned Value Management (EVM), How Do We Use Earned Value?

**Unit 7: Project Audit:** Scope of Audit, Principles of the Project Audit, Objectives of the Project Audit Guide, Benefit of the Audit for Project Organization/Users.

**Unit 8: Project Management Introduction: Need for Effective Project MIS:** Role of the Management Information System, Impact of Management Information System, what is MIS for Project Organizations? Why do We Need MIS for Projects? Background Notes on Information Systems, Business Perspective on Information Systems.

**Unit 9: Project Management Office (PMO): Need a PMO:** Need of PMO – Many issues involved in this activity, What a PMO Can Do? It's Hard to Measure Success, The Lines of Authority for PMO, Questions for Preparation.

**Unit 10: Introduction to TOC (Theory of Constraints):** History of TOC, Key Assumption & TOC Basic Principles, Theory of Constraints (TOC) as New Management Philosophy, The Five Focusing Steps, TOC Thinking Process.

### **Course Outcome:**

On successful completion of the course the learner will be able to:

CO#	Cognitive Abilities	Outcomes
CO305.1	<b>Remember</b>	Learn the basic concepts of project management.
CO305.2	<b>Understand</b>	Understand the tools & techniques of project performance and control.

CO305.3	<b>Apply</b>	Apply project management process by clearly understanding the subject.
CO305.4	<b>Evaluate</b>	Be trained to present a proposal and business case.

### **Suggested Reading:**

1. PMBOK Guide 4th Edition along with various publications of PMI USA
2. Wikipedia and Notes on Web BasedSearch
3. Notes prepared by the authors based on his personal study about ProjectManagement during his study for Fellowship Program atNITIE
4. Deploying Productivity Tools...A Killer Silver Bullet by MikeO'Dell
5. Strategic Planning Centre for NonprofitDevelopment
6. Applied Software Project Management: Andrew Stellman& Jennifer Greene

Semester	3	Course Credits	4	Specialization	Project Management
Course Code	OMBP-306			Type	Specialization Course
Course Title	IT in Projects (ITP)				

### **Course Description:**

This course is mainly designed to prepare IT project managers, novice or experienced, with project management skills needed to better manage IT projects. Built along the IT project management lifecycle, this course covers detailed topics of the basic concepts of IT project management, including initiating, planning, controlling, executing, and closing projects. The course also shows how IT projects should be managed, from inception to post implementation review.

### **Course Objectives:**

1. To understand basic concept of IT Project Management, planning and execution of Project.
2. To Understand the job roles of an IT project manager.
3. Recognize the key issues during the IT project management procedures.
4. Describe the best practices in IT project management processes.
5. Build a performing organization and project team.

### **Course Outline:**

**Unit 1: Project Management:** Its Role & Scope, Need of Project Management, Some Major Project Management Concept, Success Factors in Project Management, Project Development Life Cycle.

**Unit 2: Overview of Types of Software's for Project Management:** Basics of Project Management Software, Requirements of Project Management Software, Project Management Software Categories, Approaches to Project Management Software, Top 10 Web-Based Project Management Software, Criticisms of Project Management Software.

**Unit 3: Microsoft Project in Detail:** Starting a New Project File, Tasks and Milestones, Action Plan Organizing, Linking and Predecessors, Assign Resources to a Task, Assigning Costs Tasks, Reports, Views, and Tables.

**Unit 4: Software Selection Criteria:** Project Management Software Categories, Choosing the Right Tool, Criteria to Consider, Six Criteria for Choosing Software for Project Management Tools, General Requirement, The Recommended Procurement Process.

**Unit 5: Barriers for Using Information Technology in Project Management:** Information Technology for Project Management, Barriers to Technology Adoption and Collaboration, Reasons for Non-Adoption of IT Tools.

**Unit 6: Aligning IT Tool with the Project:** Process Definitions, Step 1: Create, Step 2: Select, Step 3: Plan, Step 4: Manage, Building a Road Map to Success, The Microsoft EPM Solution.

**Unit 7: IT Management:** IT Infrastructure, List of IT Management Disciplines, IT Configuration Management, IT Managers, Project Management Training, International Standards.

**UNIT 8: Project Planning & Task management:** Project Planning and Scheduling Techniques, Developing the Project Network Using CPM/PERT, Constructing Network Diagram, AON Basics, Forward Pass and Backward Pass, Limitations of CPM/PERT, PERT/CPM Simulation, Reducing Project Duration. Task Life Cycle, Activity Supported by Task, Task Management Software, Time Tracking Software, and Comparison of Time Tracking Software.

**Unit 9: Project Management Information System:** Objective of PMIS, Planning by Network Analysis, Cost Control Systems, Integrated PMIS, System Automation & Computerization, Project Monitoring & Reporting.

**Unit 10: IT for Documents and Collaboration:** Groupware, Groupware and Levels of Collaboration, Collaborative Software and Human Interaction, Collaborative Project Management Tools, Collaboration Software and Voting Methods, Document Collaboration.

**Unit 11: Organization Structures in Projects:** Types of Organization Structure, Hierarchical Organization Structure, Integrating Projects in Functional Organization, Matrix Organization, Complexities of Matrix Organization Structure, Advantage of Matrix Organization Structure, Fitting Matrix Organization into an Organization, Types of Matrix Organization Structure, Organization Structure in 21<sup>st</sup> Century.

### **Course Outcome:**

On successful completion of the course the learner will be able to:

CO#	Cognitive Abilities	Outcomes
CO306.1	<b>Remember</b>	Learn the roles of the IT project managers.
CO306.2	<b>Understand</b>	Understand the whole process of project management.
CO306.3	<b>Analyse</b>	Be able to develop a work breakdown structure.
CO306.4	<b>Create</b>	Implement skills related to manage the overall change control.

**Suggested Reading:**

1. IT Service Catalog Planning Stage Tips Christina Torode, August2010
2. IT Financial Management – Now Is The Time Reginald Lo, October2008
3. IT SLA and KPI ManagementMcNurlin, Barbara, et al. (2009). "Information Systems Management in Practice (8<sup>th</sup> Edition.)". PrenticeHall.
4. O'Brien, J (1999). Management Information Systems— Managing Information Technology in the Internetworked Enterprise. Boston: Irwin McGraw-Hill. ISBN 0-07- 112373-3.
5. Talbot, Chris, "HP Adds to Converged Infrastructure Lineup," Channel Insider, June 7, 2011.
6. Gardner, Dana, "Converged Infrastructure Approach Paves Way for Improved Data Center Productivity, Private Clouds," February 9, 2010, IT BusinessEdge
7. Huff, Lisa, "The Battle for the Converged Data Center Network," Data Center Knowledge, August 18,2011.
8. Harris, Derrick, "Can Open Converged Infrastructure Compete?" GigaOM, October 10, 2010.
9. McKeen, James D., and Smith, Heather A., Making IT Happen: Critical Issues in IT Management, Wiley Series in Information Systems,2003.

### **Semester-IV Project Management (PM) Specialization**

<b>Semester</b>	4	<b>Course Credits</b>	4	<b>Specialization</b>	Project Management
<b>Course Code</b>	OMBP-401			<b>Type</b>	Specialization Course
<b>Course Title</b>	Quantitative Methods in Project Management (QMPM)				

#### **Course Description:**

This course reviews descriptive statistics, exploratory data, and probability distributions. We will then examine the theory and methods of statistical inference, emphasizing those applications most useful in modeling business problems. Topics include sampling theory, estimation, hypothesis testing, linear regression, analysis of variance, and several advanced applications of the general linear model.

#### **Course Objectives:**

- 1) Conduct a comparative evaluation of quantitative, qualitative, experimental, and survey research methods.
- 2) Design research based upon the research question and constraints.
- 3) Conduct descriptive and inferential statistical analysis using various tests.
- 4) Generate research questions and use statistical tools learned in the class to answer the questions.

#### **Course Outline:**

**Unit 1: Quantitative Methods in Project Management:** The History of Statistics & Operations Research, Nature of Statistics & Operations Research, Operations Research Approach to Problem Solving, Methodology of Operations Research, Applications of Quantitative Methods in Projects.

**Unit 2: Data Presentation using Tables & Charts:** Statistics for Projects, Classification of Data, Tabulation of Data, Graphical Presentation of Data, Good & Bad Data Presentation.

**Unit 3: Properties of Numerical Data:** of Central Tendency, Measures of Dispersion.

**Unit 4: Correlation Analysis:** Covariance and Correlation in Projects, Correlation Analysis using Scatter Plots, Karl Pearson's Coefficient of Correlation, Spearman's Rank Correlation Coefficient.

**Unit 5: Simple and Multiple Regressions:** Simple Regression Analysis, Multiple Regression Analysis, Assessing the Regression Equation.