

INT416:SOFTWARE PROJECT MANAGEMENT LABORATORY

L:0 T:0 P:3 Credits:2

Course Outcomes: Through this course students should be able to

CO1 :: demonstrate various features of MS-Project tool and develop a project plan incorporating various tasks

CO2 :: classify various project resources and resolve over-allocation of resources

CO3 :: apply the concept of Gantt chart, PERT chart and network diagram for software projects

CO4 :: analyze project progress using monitoring and controlling tools, predictive alerts, and anomaly detection.

CO5 :: apply project parameters to perform cost-benefit analysis for software projects

CO6 :: apply different strategies of project management for tracking the project's progress

List of Practicals / Experiments:

Getting To Know Microsoft Project

- Starting Microsoft Project
- Using The Toolbars
- Using The Calendar View
- Using The Gantt Chart View
- Using the timeline view for better plans
- Using timescale and gridlines

Defining The Project

- Understanding Project Information
- Understanding The Project Calendar
- Choosing Your Calendar For The Project
- Understanding File Properties
- Creating new calendar and setting working and non-working days
- Applying calendar on Gantt chart
- Formatting Bar Styles in a Gantt Chart View
- Formatting the Network Diagram View
- Formatting the Calendar View

Tasks

- Entering Tasks
- Entering A Task Duration
- Estimating Durations
- Understanding Milestones And Phases
- Using Recurring Tasks
- Using Recurring Tasks Continued
- Editing Tasks
- Changing Task Priority
- Inserting A Task

- Deleting Tasks
- Moving Tasks
- Arranging tasks using priority
- Manually scheduled tasks
- Automatically scheduled tasks
- Switch task modes
- Simplified planning with inactive tasks
- Tracking a Project as Scheduled
- Entering a Task's Completion Percentage
- Entering Actual Values for Tasks

Task Linkages

- Creating A Logical Sequence
- Using The General Tab
- Understanding Task Predecessors
- Understanding Task Resources
- Understanding Advanced Task Options
- Understanding Task Constraints
- Understanding Task Types
- Using Task Notes
- Outlining A Task
- Understanding Summary Tasks
- Understanding Linkage Types
- Using A Finish To Start Relationship
- Using A Start To Start Relationship
- Using A Finish To Finish Relationship
- Using A Start To Finish Relationship
- Understanding Simple Linkage
- Spotting Linkages On A Gantt Chart
- Understanding Lag And Lead Time
- Understanding Lead Time On The Gantt Chart
- Understanding The Types Of Constraints
- Outline tasks into subtasks and summary tasks

Resources

- Using The Resource Sheet View
- Entering Resources
- Understanding Units
- Understanding Rates
- Understanding Accrue At
- Assigning a Calendar To a Group Of Resources
- Assigning Resources (Continued)
- Assigning A Resource Calendar

- Dynamic scheduling with team planner
- Find resources that have available time
- Group resources who are over allocated

Network Diagram View

- Understanding The Network Diagram View
- Examining A Network Diagram
- Understanding Summary Tasks In Network Design view
- Changing Task Linkage
- To change to Network Diagram view
- To ZOOM and see the whole of the project
- To open a node for editing
- To edit a node directly in Network Diagram view
- To Layout the boxes
- To control the layout
- To move a node
- To copy a node and link to it
- To change the content of the nodes
- To change border color and style
- To change the way a summary task is displayed
- To view the type of relationship
- To change the relationship type
- To remove a link line
- To manually add a link line
- Reform the layout

Shortening Your Project

- Setting The Critical Path
- Using The Critical Path View
- Filtering For Critical Tasks Only
- Shortening The Project

Overallocations

- Using The Resource Usage View
- Using The Resource Management Toolbar
- Using The Resource Allocation View
- Using The Resource Allocation Graph

Resolving Overallocations

- Delaying Tasks Manually
- Leveling Resources
- Leveling Resources Continued
- Using The Leveling Gantt View
- Decreasing Work Time
- Splitting Tasks
- Viewing Slack In A Table View

- Viewing Slack In A Gantt View
- Reassigning Resources
- Increasing Working Hours
- Assigning Overtime To A Task
- Contouring Resources

Printing Project Reports

- Using Print Preview
- Using The Project Summary Report

Tracking Progress

- Saving a baseline
- Compare actual values to the baseline estimates
- Updating the project schedule
- Update task and project
- Customizing toolbars and fields

Use a PERT analysis to estimate task durations

- About the PERT analysis
- Perform a PERT analysis by using the default weights for duration estimates
- Perform a PERT analysis by changing the way Project weights duration estimates

Managing Costs

- Managing total costs for tasks and resources
- Managing total costs for the entire project
- Managing cost variances for tasks, resources, and assignments
- Managing timephased baseline (budgeted) costs and actual costs
- Calculate overtime costs
- Update costs

Collaborative Project Planning and Monitoring using GitHub and Asana

- GitHub for Software Project Management
- Requirement tracking using GitHub Issues
- Creating and managing GitHub repositories
- Milestones and labels for task categorization
- Version control basics: commit, branch, merge
- Asana for Task Planning and Scheduling
- Creating projects and workspaces in Asana
- Defining tasks, subtasks, and dependencies
- Assigning responsibilities and setting deadlines
- Timeline view for schedule tracking
- Workload view for resource utilization
- Monitoring progress and status updates

Agile Project Execution and Control using Jira

- Introduction to Agile and Jira interface
- Creating Scrum or Kanban projects
- Creating epics, user stories, and tasks

- Backlog management and sprint planning
- Sprint execution and issue tracking
- Bug tracking and change management
- Dashboards and reports: burndown chart, velocity chart, sprint report

Text Books: 1. MICROSOFT PROJECT 2019 FOR DUMMIES by CYNTHIA SNYDER DIONISIO, WILEY

References: 1. MICROSOFT PROJECT 2019 STEP BY STEP by CINDY LEWIS, CARL CHATFIELD, TIMOTHY JOHNSON, MICROSOFT PRESS