ICT PROJECT MANAGEMENT

ENCT 412

Lecture : 3 **Year : IV**
Tutorial : 1 **Part : I**
Practical : 0

Course Objectives:
The objective of this course is to provide knowledge of fundamental concepts and practices of project management in ICT environments. It focuses on project planning, scheduling, cost estimation, quality assurance, risk assessment, procurement, and stakeholder management. Upon completion, students will be able to apply project management tools, methodologies, and ethical practices to plan, execute, monitor, and control ICT-based projects effectively.

1 Introduction (5 hours)

1.1 Definition of project and project management
1.2 Project objectives
1.3 Classification of projects
1.4 Advantages of project management
1.5 Project management context as per project management institute (PMI)
1.6 ICT product life cycle and its characteristics
1.7 Overview of system development methodologies

2 Project Management Body of Knowledge (6 hours)

2.1 Project environment
2.2 Managerial skills: Conceptual, technical, human-relation
2.3 Role and responsibilities of key project members
2.4 Problem solving using problem trees
2.5 Project and organizational structure
    2.5.1 System view of project management
    2.5.2 Functional organization
    2.5.3 Projectized organization
    2.5.4 Matrix organization
    2.5.5 Organizational structure influences on projects

3 Portfolio and Project Management Framework (2 hours)

3.1 PMI framework
3.2 Program management
3.3 Portfolio management
3.4 Project management office
3.5 Drivers of project success

3.6 Inhibitors of project success

4 Project Management Process Groups (2 hours)

4.1 Project management processes
4.2 Overlaps of process groups in a phase
4.3 Mapping of project management process groups to area of knowledge

5 Project Integration Management (2 hours)

5.1 Develop project charter
5.2 Develop project management plan
5.3 Direct and manage project execution
5.4 Monitor and control project work
5.5 Integrated change control
5.6 Close project or phase

6 Project Scope Management (2 hours)

6.1 Develop preliminary project scope statement
6.2 Create work break down structure
6.3 Scope verification
6.4 Scope control

7 Project Time Management (6 hours)

7.1 Activity definition, decomposition of activities, activity attributes
7.2 Activity sequencing, precedence relationship, network diagram, precedence diagram method, arrow diagramming method
7.3 Activity resources estimating, determining resource requirements
7.4 Schedule development and control, principles of scheduling, milestones, forward pass, backward pass, critical path method (CPM), critical chain technique, Gantt chart, schedule control

8 Project Cost Management (5 hours)

8.1 Cost and project cost management
8.2 Cost estimates, types, process and accuracy; Enterprise environmental factors, organizational process assets, cost estimating tools
8.3 Cost budgeting, cost aggregation, deriving budget from activity cost
8.4 Cost control process, cost control methods
8.5 Earned value management, EVM benefits, variance analysis

9 Project Quality Management (2 hours)

9.1 Quality theories
9.2 Quality planning and requirements, cost of quality, quality management plan

9.3 Quality assurance, quality audit, approach to a quality audit
9.4 Quality control process, control chart, Pareto charts
9.5 Testing of IT system, the test life cycle

10 Project Communication Management (2 hours)

10.1 Importance of communication management
10.2 Communications planning process, communication requirement analysis, organizing and conducting effective meeting
10.3 Information distribution process
10.4 Performance reporting process, integrated reporting system

11 Project Risk Management (3 hours)

11.1 Understanding project risks
11.2 Risk management plan and planning process
11.3 Risk identification techniques
11.4 Qualitative risk analysis process
11.5 Quantitative risk analysis process, modeling techniques
11.6 Risk response planning, resolution of risk, strategies for negative risks or threats, strategies for positive risks or opportunities
11.7 Risk monitoring and control process

12 Project Procurement Management (3 hours)

12.1 Procurement management process flow
12.2 Plan purchases and acquisition process, enterprise environmental factor, organizational process assets
12.3 Plan contracting process, standard forms, evaluation criteria
12.4 Request seller response process; Select seller process
12.5 Contract administration process
12.6 Contract closure process

13 Project Resource and Stakeholder Management (3 hours)

13.1 Developing the resource management plan and team charter
13.2 Estimating activity resources
13.3 Acquiring resources
13.4 Developing the project team
13.5 Managing the project team
13.6 Monitoring and controlling resources
13.7 Identifying stakeholders
13.8 Planning, managing and monitoring stakeholder engagement

14 Trends in ICT Project management (2 hours)

14.1 Agile project management

14.2 Balanced scorecard and ICT project management
14.3 Project management maturity models
14.4 Certification process flow
14.5 Code of ethics
14.6 Future trends

Tutorial **(15 hours)**

1. Analysis of local project management case studies
2. Evaluation of global project failures and lessons learned
3. IT project scope definition and requirement validation
4. Development of work breakdown structures and project scheduling
5. Agile planning and comparison of scheduling approaches
6. Project cost estimation and budget management using earned value techniques
7. Quality assurance, testing, and project communication planning
8. Project risk identification and procurement management
9. Preparation and documentation of IT project deliverables
10. Project presentation and team-based capstone defense

Final Exam

The questions will cover all the chapters in the syllabus. The evaluation scheme will be as indicated in the table below:

Chapters	Hours	Marks distribution*
1	5	7
2	6	8
3, 4, 5, 6	8	11
7	6	8
8	5	7
9, 10, 11	7	9
12, 13, 14	8	10
Total	**45**	**60**

* There may be minor deviation in marks distribution.

References

1. Schwalbe, K. (2019). Information technology project management. Cengage Learning.
2. Gray, C. F., Larson, E. W. (2021). Project management: The management process. McGraw-Hill Education.
3. Project Management Institute. (2021). The standard for project management and a guide to the project management body of knowledge (PMBOK® guide). Project Management Institute.
4. Jenkins, N. (2012). A project management primer.
5. Young, T. L. (2013). The handbook of project management. Kogan Page.
6. Kelkar, S. A. (2015). IT project management. PHI Learning.