

## BCA 611: Software Project Management

### Teaching Scheme

Lectures: 3 hrs/Week  
Tutorials: 1 hr/Week

Credits: 4

### Examination Scheme

Class Test -12Marks  
Teachers Assessment - 6Marks  
Attendance – 12 Marks  
End Semester Exam – 70 marks

**Prerequisite: -**

### Course Objectives:

1. Apply project management concepts and techniques to an IT project.
2. Identify issues that could lead to IT project success or failure.
3. Explain project management in terms of the software development process.
4. Describe the responsibilities of IT project managers.

### Detailed Syllabus

#### Unit-1

**Project Evaluation and Project Planning:** Importance of Software Project Management, Activities, Methodologies, Categorization of Software Projects. Setting objectives, Management Principles, Management Control, Project portfolio Management, Cost-benefit evaluation technology. Risk evaluation, Strategic program Management Stepwise Project Planning.

#### Unit-2

**Project Life Cycle and Effort Estimation:** Software process and Process Models, Choice of Process models, Rapid Application development, Agile methods, Dynamic System Development Method, Extreme Programming, Managing interactive processes, Basics of Software estimation, Effort and Cost estimation techniques, COSMIC Full function points, COCOMO II – a Parametric Productivity Model.

#### Unit-3

**Activity Planning :** Objectives of Activity planning, Project schedules, Activities, Sequencing and scheduling, Network Planning models, Formulating Network Model, Forward Pass & Backward Pass techniques, Critical path (CRM) method.

#### Unit-4

**Risk Management:** Risk identification, Assessment, Risk Planning, Risk Management, PERT technique. Monte Carlo simulation, Resource Allocation, Creation of critical paths, Cost schedules.

#### Unit-5

**Project Management and Control:** Framework for Management and control, Collection of data, Visualizing progress, Cost monitoring, Earned Value Analysis, Prioritizing Monitoring, Project tracking, Change control, Software Configuration Management, Managing contracts, Contract Management.

#### Unit-6

**Staffing In Software Projects:** Managing people, Organizational behavior, Best methods of staff selection, Motivation, The Oldham Hackman job characteristic model, Stress, Health and Safety, Ethical and Professional concerns, Working in teams, Decision making, Organizational structures, Dispersed and Virtual teams, Communications genres, Communication plans, Leadership.

**Text and Reference Books:**

- 1- Bob Hughes, Mike Cotterell and Rajib Mall: Software Project Management – Fifth Edition, Tata McGraw Hill, New Delhi, 2012.
- 2- Robert K. Wysocki, Effective Software Project Management – Wiley Publication, 2011.
- 3- Walker Royce, Software Project Management- Addison-Wesley, 1998.
- 4- Gopalswamy Ramesh, Managing Global Software Projects – McGraw Hill Education (India), Fourteenth Reprint 2013.

**Course Outcomes:**

After completing the course, students will be able to:

- |   |
|---|
| 1. Identify the different project contexts and suggest an appropriate management strategy. □                                    |
| 2. Practice the role of professional ethics insuccessful software development.  |
| 3. Identify and describe the key phases of project management.  |
| 4. Perform case studies on cost estimation models like COCOMO and COCOMO II .   |
| 5. Determine an appropriate project management approach through an evaluation of the business context and scope of the project. |
| 6. Implement a WBS for a given specific software application.   |
| 7. Comparative analysis on Process Vs Product metrics.  |