# GUJARAT UNIVERSITY
## BCA V SYLLABUS

| COURSE TITLE | SEC301 Software Project Management |
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| COURSE CODE | SEC-301 |
| COURSE CREDIT | 3 |
| Session Per Week | 3 |
| Total Teaching Hours | 40 HOURS |

**AIM**

To provide knowledge of Software Project Management.

**LEARNING OUTCOMES**

On the completion of the course students will:

1. To get familiar with the characteristics of a project, project management overview, risk in environment and the management of challenges for effective project management.
2. To understand and use the project planning principles across all phases of a project.
3. To demonstrate competency in the management of a project plan, especially in monitor and controlling a project schedule and budget, tracking project progress.
4. To understand how to manage the quality of project.

**DETAIL SYLLABUS**

| UNIT | TOPIC / SUB TOPIC | TEACHING HOURS |
|---|---|---|
| 1 | **Introduction to Software Project Management, Project Evaluation and Programme Management, An Overview of Project Planning** | **10** |
| | ❖ **Introduction to Software Project Management**<br>➢ Introduction<br>➢ Why is Software Project Management?<br>➢ What is Project?<br>➢ Software Projects versus Other Types of Project<br>➢ Activities Covered by Software Project Management<br>➢ Stakeholders<br>➢ What is Management? (Only definition)<br>❖ **Project Evaluation and Programme Management**<br>➢ Introduction<br>➢ Evaluation of Individual Projects<br>➢ Programme Management<br>❖ **An Overview of Project Planning** | |

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| | ➢ Introduction<br>➢ Select Project<br>➢ Identify Project Scope and Objectives<br>➢ Identify Project Infrastructure<br>➢ Analyze Project Characteristics<br>➢ Identify Project Product and Activities<br>➢ Estimate Effort for Each Activity<br>➢ Identify Activity Risks<br>➢ Allocate Resources<br>➢ Review/ Publicize Plan<br>➢ Execute Plan, Lower level of Planning | |
| 2 | **Selection of an Appropriate Project Approach, Software Effort Estimation** | **10** |
| | ❖ **Selection of an Appropriate Project Approach**<br>➢ Introduction<br>➢ The Waterfall Model<br>➢ The Spiral Model<br>➢ Software Prototyping<br>➢ Incremental Delivery<br>➢ Atern/Dynamic Systems Development Method<br>❖ **Software Effort Estimation**<br>➢ Introduction<br>➢ Where are Estimates Done?<br>➢ Problems with Over-and-Under-Estimates<br>➢ The Basis for Software Estimating<br>➢ Software Effort Estimation Techniques<br>➢ Bottom-Up Estimating<br>➢ The Top-down Approach and Parametric Models<br>➢ Expert Judgment<br>➢ Estimating by Analogy<br>➢ Albrecht Function Point Analysis | |
| 3 | **Activity Planning, Risk Management** | **10** |
| | ❖ **Activity Planning**<br>➢ Introduction<br>➢ Projects and Activities (Defining Activities)<br>➢ Network Planning Models<br>➢ Formulating a Network Model<br>➢ Adding the Time Dimension<br>➢ The Forward Pass<br>➢ The Backward Pass<br>➢ Identifying the Critical Path<br>➢ Activity Float<br>➢ Shortening the Project Duration<br>➢ o Identifying Critical Activities | **7** |

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| | ❖ **Risk Management**<br>➢ Introduction<br>➢ Risk<br>➢ Categories of Risk<br>➢ A Framework for Dealing with Risk<br>➢ Risk Identification<br>➢ Risk Assessment<br>➢ Risk Planning | **3** |
| 4 | **Resource Allocation, Monitoring and Control, Managing Contracts, Software Quality** | **10** |
| | ❖ **Resource Allocation**<br>➢ Introduction<br>➢ The Nature of Resources Cost Schedules<br>❖ **Monitoring and Control**<br>➢ Introduction<br>➢ Visualizing Progress<br>➢ Earned Value Analysis<br>❖ **Managing Contracts**<br>➢ Introduction<br>➢ Types of Contracts<br>➢ Stages in Contract Placement<br>❖ **Software Quality**<br>➢ Introduction<br>➢ Defining Software Quality | |

| **Textbook** |
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| Software Project Management (5th Edition)<br>Publisher: Mc Graw Hill<br>By Bob Hughes, Mike Cotterell, Rajib Mall |
| **REFERENCE BOOKS:** |
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