

Siruseri IT park, OMR, Chennai - 603103

| LESSON PLAN                                                                                                            |                                                                       |                                    |                        |                                  |                         |     |         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|------------------------------------|------------------------|----------------------------------|-------------------------|-----|---------|
| Department of<br>SOFTWARE ENGINEERING                                                                                  |                                                                       |                                    |                        | COMPUTER SCIENCE AND ENGINEERING |                         |     |         |
| Name of the<br>Subject Code                                                                                            | CS8494                                                                | Name of the handling<br>Year / Sem | Mrs.V.Saranya<br>III/V |                                  |                         |     |         |
| Acad Year                                                                                                              | 2021-2022                                                             | Batch                              | 2018-2022              |                                  |                         |     |         |
| Course Objective                                                                                                       |                                                                       |                                    |                        |                                  |                         |     |         |
| 1.To understand the phases in a software project                                                                       |                                                                       |                                    |                        |                                  |                         |     |         |
| 2.To understand fundamental concepts of requirements engineering and Analysis Modeling.                                |                                                                       |                                    |                        |                                  |                         |     |         |
| 3. Understand the major considerations for enterprise integration and deployment.                                      |                                                                       |                                    |                        |                                  |                         |     |         |
| 4.Learn various testing and maintenance measures                                                                       |                                                                       |                                    |                        |                                  |                         |     |         |
| Course Outcome                                                                                                         |                                                                       |                                    |                        |                                  |                         |     |         |
| Update completion of the course,the students will be able to;                                                          |                                                                       |                                    |                        |                                  |                         |     |         |
| CO1. Identify the key activities in Software Project Management and compare software process models.                   |                                                                       |                                    |                        |                                  |                         |     |         |
| CO2.Compare different process models.                                                                                  |                                                                       |                                    |                        |                                  |                         |     |         |
| CO3. Concepts of requirements engineering and Analysis Modeling.                                                       |                                                                       |                                    |                        |                                  |                         |     |         |
| CO4. Apply systematic procedure for software design and deployment.                                                    |                                                                       |                                    |                        |                                  |                         |     |         |
| CO5. Compare and contrast the various testing and maintenance                                                          |                                                                       |                                    |                        |                                  |                         |     |         |
| Lesson Plan                                                                                                            |                                                                       |                                    |                        |                                  |                         |     |         |
| Sl. No.                                                                                                                | Topic(s)                                                              | T / R *<br>Book                    | Periods Required       | Mo<br>de                         | Blooms Level<br>(L1-L6) | CO  | PO      |
| UNIT-I                                                                                                                 |                                                                       |                                    |                        |                                  |                         |     |         |
| 1                                                                                                                      | Introduction to Software Engineering                                  | T1                                 | 1                      | BB                               | L1                      | CO1 | PO1,PO2 |
| 2                                                                                                                      | Software Process                                                      | T1                                 | 1                      | BB                               | L1                      | CO1 | PO1,PO2 |
| 3                                                                                                                      | Perspective Process Models ,Waterfall Model, Incremental ProcessModel | T1                                 | 1                      | BB                               | L2                      | CO2 | PO1     |
| 4                                                                                                                      | Evolutionary Process Models                                           | T1                                 | 1                      | BB                               | L2                      | CO2 | PO1     |
| 5                                                                                                                      | Specialized Process Models                                            | T1                                 | 1                      | BB                               | L2                      | CO2 | PO1     |
| 6                                                                                                                      | Introduction to Agility                                               | T1                                 | 1                      | PPT                              | L1                      | CO1 | PO2     |
| 7                                                                                                                      | Agile process                                                         | T1                                 | 1                      | PPT                              | L1                      | CO1 | PO1     |
| 8                                                                                                                      | Extreme programming                                                   | T1                                 | 1                      | PPT                              | L1                      | CO1 | PO1     |
| 9                                                                                                                      | XP Process                                                            | T1                                 | 1                      | PPT                              | L3                      | CO1 | PO2     |
| Suggested Activity: Assignment / Case Studies / Tuorials/ Quiz / Mini Projects / Model Developed/others Planned if any |                                                                       |                                    |                        |                                  |                         |     |         |
| Evaluation method                                                                                                      |                                                                       |                                    |                        |                                  |                         |     |         |
| UNIT II REQUIREMENTS ANALYSIS AND SPECIFICATION                                                                        |                                                                       |                                    |                        |                                  |                         |     |         |
| 10                                                                                                                     | Software Requirements: Functionaland Non-Functional Requirements      | T1                                 | 1                      | BB                               | L1                      | CO2 | PO2     |
| 11                                                                                                                     | User requirements, System requirements                                | T1                                 | 1                      | BB                               | L1                      | CO2 | PO2     |
| 12                                                                                                                     | Software Requirements Document                                        | T1                                 | 1                      | BB                               | L1                      | CO2 | PO1     |
| 13                                                                                                                     | Requirement Engineering Process                                       | T1                                 | 1                      | BB                               | L2                      | CO2 | PO2     |
| 14                                                                                                                     | Requirements elicitation and analysis                                 | T1                                 | 1                      | BB                               | L2                      | CO2 | PO2     |
| 15                                                                                                                     | requirements validation, requirements                                 | W2                                 | 1                      | PPT                              | L2                      | CO2 | PO2     |
| 16                                                                                                                     | Classical analysis: Structured system                                 | W2                                 | 1                      | PPT                              | L2                      | CO2 | PO2     |
| 17                                                                                                                     | Petri Nets                                                            | T1                                 | 1                      | PPT                              | L3                      | CO2 | PO2     |
| 18                                                                                                                     | Data Dictionary                                                       | T1                                 | 1                      | PPT                              | L3                      | CO2 | PO1     |
| Suggested Activity: Assignment / Case Studies / Tuorials/ Quiz / Mini Projects / Model Developed/others Planned if any |                                                                       |                                    |                        |                                  |                         |     |         |
| Evaluation method                                                                                                      |                                                                       |                                    |                        |                                  |                         |     |         |
| UNIT III SOFTWARE DESIGN                                                                                               |                                                                       |                                    |                        |                                  |                         |     |         |
| 19                                                                                                                     | Design process And Design Concepts                                    | T1                                 | 1                      | BB                               | L1                      | CO4 | PO1,PO2 |
| 20                                                                                                                     | Design Model And Design Heuristic                                     | T1                                 | 1                      | BB                               | L1                      | CO4 | PO1,PO2 |
| 21                                                                                                                     | Architectural Design                                                  | T1                                 | 1                      | BB                               | L1                      | CO4 | PO1,PO2 |
| 22                                                                                                                     | Architectural styles                                                  | T1                                 | 1                      | BB                               | L2                      | CO3 | PO1     |
| 23                                                                                                                     | Architectural Mapping using Data                                      | T1                                 | 1                      | BB                               | L2                      | CO3 | PO3     |
| 24                                                                                                                     | User Interface Design And Interface                                   | T1                                 | 1                      | PPT                              | L1                      | CO3 | PO2     |
| 25                                                                                                                     | Interface Design –Component level                                     | W1                                 | 1                      | PPT                              | L2                      | CO3 | PO2     |
| 26                                                                                                                     | Designing Class based components                                      | W2                                 | 1                      | PPT                              | L3                      | CO3 | PO2     |
| 27                                                                                                                     | Traditional Components                                                | W1                                 | 1                      | BB                               | L3                      | CO3 | PO2     |
| Suggested Activity: Assignment / Case Studies / Tuorials/ Quiz / Mini Projects / Model Developed/others Planned if any |                                                                       |                                    |                        |                                  |                         |     |         |
| Evaluation method                                                                                                      |                                                                       |                                    |                        |                                  |                         |     |         |
| UNIT IV TESTING AND MAINTENANCE                                                                                        |                                                                       |                                    |                        |                                  |                         |     |         |
| 28                                                                                                                     | Software testing fundamentals                                         | T1                                 | 1                      | BB                               | L1                      | CO4 | PO1     |
| 29                                                                                                                     | Internal and external views of Testing                                | T1                                 | 1                      | BB                               | L1                      | CO4 | PO2     |
| 30                                                                                                                     | white box testing - basis path testing                                | T1                                 | 1                      | BB                               | L2                      | CO4 | PO2     |
| 31                                                                                                                     | black box testing- Regression Testing                                 | T1                                 | 1                      | BB                               | L2                      | CO4 | PO1     |
| 32                                                                                                                     | Integration Testing – Validation                                      | T1                                 | 1                      | BB                               | L2                      | CO4 | PO1     |
| 33                                                                                                                     | System Testing And Debugging                                          | T1                                 | 1                      | BB                               | L2                      | CO4 | PO2     |
| 34                                                                                                                     | Software Implementation Techniques:                                   | T1                                 | 1                      | PPT                              | L3                      | CO4 | PO9     |
| 35                                                                                                                     | Maintenance and Reengineering-BPR                                     | W2                                 | 1                      | PPT                              | L1                      | CO4 | PO1     |
| 36                                                                                                                     | Reengineering process model Reverse                                   | W2                                 | 1                      | PPT                              | L2                      | CO4 | PO10    |
| Suggested Activity: Assignment / Case Studies / Tuorials/ Quiz / Mini Projects / Model Developed/others Planned if any |                                                                       |                                    |                        |                                  |                         |     |         |
| Evaluation method                                                                                                      |                                                                       |                                    |                        |                                  |                         |     |         |
| UNIT V PROJECT MANAGEMENT                                                                                              |                                                                       |                                    |                        |                                  |                         |     |         |
| 37                                                                                                                     | Software Project Management:Estimation                                | T1                                 | 1                      | BB                               | L1                      | CO5 | PO1     |
| 38                                                                                                                     | LOC, FP Based Estimation,                                             | T1                                 | 1                      | BB                               | L2                      | CO5 | PO1     |
| 39                                                                                                                     | COCOMO I & II Model                                                   | T1                                 | 1                      | BB                               | L2                      | CO5 | PO5     |
| 40                                                                                                                     | Project Scheduling – Scheduling                                       | T1                                 | 1                      | BB                               | L2                      | CO5 | PO2     |
| 41                                                                                                                     | Earned Value Analysis Planning                                        | T1                                 | 1                      | PPT                              | L2                      | CO5 | PO2     |
| 42                                                                                                                     | RFP Risk Management –Identification, Projection                       | T1                                 | 1                      | PPT                              | L3                      | CO5 | PO10    |
| 43                                                                                                                     | Risk Management-Risk Identification                                   | W2                                 | 1                      | BB                               | L3                      | CO5 | PO2     |
| 44                                                                                                                     | RMMM Plan                                                             | W2                                 | 1                      | BB                               | L3                      | CO5 | PO8     |
| 45                                                                                                                     | CASE TOOLS                                                            | W2                                 | 1                      | BB                               | L2                      | CO5 | PO12    |

|                                                    |                                                                                                                                                       |     |     |                      |     |     |     |       |                           |      |             |             |                          |     |       |
|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|----------------------|-----|-----|-----|-------|---------------------------|------|-------------|-------------|--------------------------|-----|-------|
| 2                                                  | W2: <a href="https://www2.cs.siu.edu/~mengxia/Courses%20PPT/435/Chapter_03.pdf">https://www2.cs.siu.edu/~mengxia/Courses%20PPT/435/Chapter_03.pdf</a> |     |     |                      |     |     |     |       |                           |      |             |             |                          |     |       |
| 3                                                  | W3: <a href="http://www.cs.tau.ac.il/~nachumd/models/Nets.pdf">http://www.cs.tau.ac.il/~nachumd/models/Nets.pdf</a>                                   |     |     |                      |     |     |     |       |                           |      |             |             |                          |     |       |
| Blooms Level                                       |                                                                                                                                                       |     |     |                      |     |     |     |       |                           |      |             |             |                          |     |       |
| Level 1 ( L1 ) : Remembering                       |                                                                                                                                                       |     |     | Lower Order Thinking |     |     |     | Fixed | Level 4 (L4) : Analysing  |      |             |             | Projects / Mini Projects |     |       |
| Level 2 (L2) : Understanding                       |                                                                                                                                                       |     |     |                      |     |     |     | Hour  | Level 5 (L5) : Evaluating |      |             |             |                          |     |       |
| Level 3 (L3) : Applying                            |                                                                                                                                                       |     |     |                      |     |     |     | Exams | Level 6 (L6) : Creating   |      |             |             |                          |     |       |
| Mapping syllabus with Bloom's Taxonomy LOT and HOT |                                                                                                                                                       |     |     |                      |     |     |     |       |                           |      |             |             |                          |     |       |
| Unit No                                            | Unit Name                                                                                                                                             |     |     |                      |     |     |     | L1    | L3                        | L4   | L5          | L6          | LOT                      | HOT | Total |
| Unit 1                                             | SOFTWARE PROCESS AND AGILE DEVELOPMENT                                                                                                                |     |     |                      |     |     |     | 4     |                           |      |             |             | 9                        | 0   | 9     |
| Unit 2                                             | REQUIREMENTS ANALYSIS AND SPECIFICATION                                                                                                               |     |     |                      |     |     |     |       | 1                         | 3    |             |             | 6                        | 3   | 9     |
| Unit 3                                             | UNIT III SOFTWARE DESIGN                                                                                                                              |     |     |                      |     |     |     |       | 1                         | 3    |             |             | 6                        | 3   | 9     |
| Unit 4                                             | UNIT IV TESTING AND MAINTENANCE                                                                                                                       |     |     |                      |     |     |     |       | 7                         |      |             |             | 9                        | 0   | 9     |
| Unit 5                                             | UNIT V PROJECT MANAGEMENT                                                                                                                             |     |     |                      |     |     |     |       | 7                         |      | 1           | 1           | 7                        | 2   | 9     |
| Total                                              |                                                                                                                                                       |     |     |                      |     |     |     | 4     | 16                        | 6    | 1           | 1           | 37                       | 8   | 45    |
| Total Percentage                                   |                                                                                                                                                       |     |     |                      |     |     |     | 8.889 | 35.55555556               | 13   | 2.222222222 | 2.222222222 | 82.22222222              | 18  | 100   |
| CO PO Mapping                                      |                                                                                                                                                       |     |     |                      |     |     |     |       |                           |      |             |             |                          |     |       |
|                                                    | PO 1                                                                                                                                                  | PO2 | PO3 | PO4                  | PO5 | PO6 | PO8 | PO 9  | PO10                      | PO11 | PO12        | PSO 1       | PSO2                     |     |       |
| CO1                                                | 3                                                                                                                                                     | 3   | 2   |                      | 2   | 2   | 1   | 1     | 1                         |      | 1           | 3           |                          | 2   |       |
| CO2                                                | 3                                                                                                                                                     | 3   | 2   |                      | 2   | 2   | 1   | 1     | 1                         |      | 1           | 3           |                          | 2   |       |
| CO3                                                | 3                                                                                                                                                     | 3   | 2   |                      | 2   | 2   | 1   | 1     | 1                         |      | 1           | 3           |                          | 2   |       |
| CO4                                                | 3                                                                                                                                                     | 3   | 2   |                      | 2   | 2   | 1   | 1     | 1                         |      | 1           | 3           |                          | 2   |       |
| CO5                                                | 3                                                                                                                                                     | 3   | 2   |                      | 2   | 2   | 1   | 1     | 1                         |      | 1           | 3           |                          | 2   |       |
| Avg                                                | 3                                                                                                                                                     | 3   | 3   |                      |     | 3   | 1   |       | 1                         |      | 1           | 3           |                          | 2   |       |
| Justification for CO-PO mapping                    |                                                                                                                                                       |     |     |                      |     |     |     |       |                           |      |             |             |                          |     |       |
| CO1                                                | Identify the key activities in Software Project Management and compare software process models.                                                       |     |     |                      |     |     |     |       |                           |      |             |             |                          |     |       |
| CO2                                                | Compare different process models.                                                                                                                     |     |     |                      |     |     |     |       |                           |      |             |             |                          |     |       |
| CO3                                                | Concepts of requirements engineering and Analysis Modeling.                                                                                           |     |     |                      |     |     |     |       |                           |      |             |             |                          |     |       |
| CO4                                                | Apply systematic procedure for software design and deployment.                                                                                        |     |     |                      |     |     |     |       |                           |      |             |             |                          |     |       |
| CO5                                                | Compare and contrast the various testing and maintenance                                                                                              |     |     |                      |     |     |     |       |                           |      |             |             |                          |     |       |
| 3                                                  | High level                                                                                                                                            |     |     |                      | 2   |     |     |       |                           |      |             |             |                          |     |       |
| Name & Sign of Faculty Incharge :Mrs.V.Saranya     |                                                                                                                                                       |     |     |                      |     |     |     |       |                           |      |             |             |                          |     |       |
| Name & Sign of Subject Expert :                    |                                                                                                                                                       |     |     |                      |     |     |     |       |                           |      |             |             |                          |     |       |
| Head of the Department :CSE                        |                                                                                                                                                       |     |     |                      |     |     |     |       |                           |      |             |             |                          |     |       |
| Format No :31                                      |                                                                                                                                                       |     |     |                      |     |     |     |       |                           |      |             |             |                          |     |       |