** E.G.S Pillay Engineering College – Nagapattinam**

**Department of MCA**

**Course plan - MC9252 /Software Project Management L T P C**

**3 0 0 3**

**Subject Code/Name** : MC9252/Software Project Management

**Class** : III MCA **Batch**  : 2011-2014

**Prescribed Hours** : 45 **Required Hours** : 46

**Staff Name** : Ms. J. Vanitha **Semester** : V

**AIM:**

The aim of the course is to provide the students the fundamental learning of software project management, planning, monitoring and control of the project and also provide organizational behaviors.

**INSTRUCTIONAL OBJECTIVES & OUTCOMES**:

**Instructional Objectives**

1. To train the students in the fundamentals of software project Management and various steps.
2. To impart the steps involved in the evaluating of a project.
3. To familiarize the concepts of monitoring and control software project.
4. To enable the students to acquire the concepts of organizational behaviors.

**Instructional Outcomes**

**At the end of the course, the student will able to**

1. explain the activities involved in software project management and stepwise project planning.
2. carryout the cost benefit analysis for a project .
3. explain activity plan for estimating the duration of a project.
4. explain steps involved the progress of the project using continual monitoring report which includes weekly time sheet,activity assessment sheet,etc.,
5. explain the concepts of organizational behaviors.

**PREREQUISITE**:

* + 1. **MC9233** Software Engineering - III Semester

**INSTRUCTIONAL MAPPING WITH POs AND PEOs**

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| **CA5303 /Software Project Management** | | | | | | | | | | | | | | |
| Instructional designed by | Anna University, Thiruchirappai (2009 Regulations) | | | | | | | | | | | | | |
| PO mapping with Instructional outcome | a | b | | c | d | | e | f | g | h | i | j | k | l |
| iv | i | |  |  | | v |  |  |  |  | ii,iii |  |  |
| PEO mapping with Instructional | Preparation | | Core  competence | | | Breadth | | | | Professionalism | | Learning Environment | | |
| X | | X | | |  | | | |  | |  | | |

**DETAILED LESSON PLAN**:

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| **UNIT I FUNDAMENTALS**  Project Definition – Contract Management – Activities Covered by Software Project Management – Overview of Project Planning – Stepwise Project Planning. | | | | | | | | | | | | | | | | | | | | | | | | |
| **Session No.** | **Topics to be covered** | | **Text book** | | | **Chapter No. and**  **Page No** | | **Instruction delivery** | | | | | | | | | | **Testing method** | | | | | **Instructional Objective** | **Instructional**  **Outcome** |
| **Method** | | | | | | **Level** | | | |
| 1,2 | Project Definition, Contract Management | | Bob Hughes and MikeCotterell, “Software Project Management”, Third Edition, TATA  McGraw Hill Edition, 2004 | | | Chapter 1  Pg 1-4 | | Board and chalk | | | | | | Knowledge | | | | Unit test | | | | | 1. To understand the fundamentals of software project management and various steps involved in project planning. | i)explain the activities involved in software project management and stepwise project planning. |
| 3,4 | Activities Covered by Software Project  Management | | Chapter 1  Pg 4-7 | | PPT | | | | | | Understanding | | | | Unit test and Assignment | | | | |
| 5,6 | Overview of Project Planning | | Chapter 2  Pg 20-39 | | PPT | | | | | | Understanding | | | | Unit test | | | | |
| 7,8,9 | Stepwise Project Planning | | PPT | | | | | | Understanding | | | | Unit test and Assignment | | | | |
| **UNIT II PROJECT EVALUATION**  Strategic Assessment – Technical Assessment – Cost Benefit Analysis – Cash Flow Forecasting – Cost Benefit Evaluation Techniques – Risk Evaluation. | | | | | | | | | | | | | | | | | | | | | | | | |
| **Session No.** | **Topics to be covered** | | | **Text book** | | **Chapter No. and**  **Page No** | | | | **Instruction delivary** | | | | | | | **Testing method** | | | **Instructional Objective** | | | | **Instructional**  **Outcome** |
| **Method** | | | **Level** | | | |  | | |
| 10 | Strategic Assessment | | | Bob Hughes and MikeCotterell, “Software Project Management”, Third Edition, TATA  McGraw Hill Edition, 2004 | | Chapter 3  Pg 46 | | | | Board and chalk | | | knowledge | | | | Unit test | | | 2.To understand how to evaluate a project . | | | | ii)do the cost benefit analysis for a project |
| 11 | Technical Assessment | | | Chapter 3  Pg 53 | | | | Board and chalk | | | understanding | | | | Unit test | | |
| 12,13 | Cost Benefit Analysis | | | Chapter 3  Pg 53-54 | | | | PPT | | | Application | | | | Unit test and Assignment | | |
| 14,15 | Cash Flow Forecasting | | | Chapter 3  Pg 54-55 | | | | PPT | | | Application | | | | Unit test and Assignment | | |
| 16,17 | Cost Benefit Evaluation Techniques | | | Chapter 3  Pg 55-61 | | | | PPT | | | Application | | | | Unit test | | |
| 18 | Risk Evaluation | | | Chapter 3  Pg 61-66 | | | | Board and chalk | | | Application | | | | Unit test and Assignment | | |
| **UNIT III ACTIVITY PLANNING**  Objectives – Project Schedule – Sequencing and Scheduling Activities – Network Planning Models – Forward Pass – Backward Pass – Activity Float – Shortening Project Duration – Activity on Arrow Networks – Risk Management – Nature of Risk – Types of Risk – Managing Risk – Hazard Identification – Hazard Analysis – Risk Planning and Control. | | | | | | | | | | | | | | | | | | | | | | | | |
| **Session No.** | **Topics to be covered** | **Text book** | | | **Chapter No. and**  **Page No** | | | | | | **Instruction delivery** | | | | | | | **Testing method** | | | **Instructional Objective** | | | **Programme outcome** |
| **Method** | | | | **Level** | | |
| 19 | Objectives, Project Schedule | Bob Hughes and MikeCotterell, “Software Project Management”, Third Edition, TATA McGraw Hill Edition, 2004 | | | Chapter 6  Pg 118 -125 | | | | | | Board and chalk | | | | Knowledge | | | Unit test | | | 2.To understand how to evaluate a project | | | iii. explain activity plan for estimate the duration of a project. |
| 20 | Sequencing and Scheduling Activities | Chapter 6  Pg 125 -126 | | | | | | PPT | | | | Understanding | | | Unit test and Assignment | | |
| Network Planning Models | Chapter 6  Pg 126-131 | | | | | | PPT | | | | Understanding | | | Unit test | | |
| 21 | Forward Pass | Chapter 6  Pg 132-133 | | | | | | Board & chalk | | | | Application | | | Unit test and Assignment | | |
| Backward Pass | Chapter 6  Pg 133-134 | | | | | | Board & chalk | | | | Application | | | Unit test and Assignment | | |
| 22 | Activity Float | Chapter 6  Pg 135-136 | | | | | | Board & chalk | | | | Understanding | | | Unit test | | |
| Shortening Project Duration | Chapter 6  Pg 136 | | | | | | Board & chalk | | | | Understanding | | | Unit test | | |
| Activity on Arrow Networks | Chapter 6  Pg 137-144 | | | | | | PPT | | | | Understanding | | | Unit test | | |
| 23 | Risk Management | Chapter 7  Pg 147 | | | | | | PPT | | | | Knowledge | | |
| 24 | Nature of Risk, Types of Risk | Chapter 7  Pg 149-151 | | | | | | PPT | | | | Knowledge | | | Unit test | | |
| Managing Risk |  | | | | | | PPT | | | | Understanding | | | Unit test | | |
| 25 | Hazard Identification | Chapter 7  Pg 151-155 | | | | | | PPT | | | | Knowledge | | | Unit test | | |
| 26 | Hazard Analysis | Chapter 7  Pg 155-158 | | | | | | PPT | | | | Understanding | | | Unit test | | |
| 27 | Risk Planning and Control | Chapter 7  Pg 158-160 | | | | | | PPT | | | | Understanding | | | Unit test | | |
| **UNIT IV MONITORING AND CONTROL**  Creating Framework – Collecting the Data – Visualizing Progress – Cost Monitoring – Earned Value – Prioritizing Monitoring – Getting Project Back To Target – Change Control – Managing Contracts – Types Of Contract – Stages In Contract Placement – Typical Terms of a Contract – Contract Management – Acceptance. | | | | | | | | | | | | | | | | | | | | | | | | |
| **Session No.** | **Topics to be covered** | | | **Text book** | | | **Chapter No. and**  **Page No** | | | | | **Instruction delivery** | | | | | | | **Testing method** | | | **Instructional Objective** | | **Programme outcome** |
| **method** | | | | **level** | | |  | | |
| 28 | Creating the framework | | | Bob Hughes and MikeCotterell, “Software Project Management”, Third Edition, TATA McGraw Hill Edition, 2004 | | | Chapter 9  Pg 190-193 | | | | | PPT | | | | Understanding | | | Unit test | | | 4.To learn how to monitor and control software projects | | iv) explain the progress of the project |
| Collecting the Data | | | Chapter 9  Pg 193-196 | | | | | PPT | | | | Understanding | | | Unit test | | |
| 29 | Visualizing Progress | | | Chapter 9  Pg 196-199 | | | | | PPT | | | | Understanding | | | Unit test | | |
| Cost Monitoring | | | Chapter 9  Pg 200 | | | | | PPT | | | | Understanding | | | Unit test | | |
| 30 | Earned Value | | | Chapter 9  Pg 201-205 | | | | | PPT | | | | Understanding | | | Unit test | | |
| 31 | Prioritizing Monitoring | | | Chapter 9  Pg 205-206 | | | | | PPT | | | | Understanding | | | Unit test | | |
| Getting Project Back to Target | | | Chapter 9  Pg 206-207 | | | | | PPT | | | | Understanding | | | Unit test | | |
| 32 | Change Control | | | Chapter 9  Pg 207-209 | | | | | PPT | | | | Understanding | | | Unit test and Assignment | | |
| Managing Contracts | | | Chapter 10  Pg 211-216 | | | | | PPT | | | | Understanding | | | Unit test | | |
| 33 | Types of Contracts | | | Chapter 10  Pg 216-221 | | | | | PPT | | | | Understanding | | | Unit test | | |
| 34 | Stages in Contract Placement | | | Chapter 10  Pg 221-226 | | | | | PPT | | | | Understanding | | | Unit test | | |
| 35 | Typical Terms of a contract | | | Chapter 10  Pg 226-228 | | | | | PPT | | | | Knowledge | | | Unit test | | |
| 36 | Contract Management | | | Chapter 10  Pg 229 | | | | | PPT | | | | Understanding | | | Unit test and Assignment | | |
| Acceptance | | | Chapter 10  Pg 230 | | | | | PPT | | | | Understanding | | | Unit test | | |
| **UNIT V MANAGING PEOPLE AND ORGANIZING TEAMS**  Understanding Behavior – Organizational Behavior: A Background –Selecting Right Person for Job – Instruction in Best Methods – Motivation – The Oldman–Hackman Job Characteristics Model – Working in Groups – Becoming a Team – Decision Making – Leadership – Organizational Structures – Stress – Health and Safety – Case Studies. | | | | | | | | | | | | | | | | | | | | | | | | |
| **Session No.** | **Topics to be covered** | | | **Text book** | **Chapter No. and**  **Page No** | | | | **Instruction delivery** | | | | | | | | | **Testing method** | | | **Instructional Objective** | | | **Programme outcome** |
| **Method** | | | | | | **Level** | | |
| 37 | Understanding Behavior | | | Bob Hughes and MikeCotterell, “Software Project Management”, Third Edition,  TATA McGraw Hill Edition, 2004  MikeCotterell, “Software Project Management”, Third Edition, TATA  McGraw Hill Edition, 2004 | Chapter 11  Pg 234 | | | | Board & chalk | | | | | | Knowledge | | | Unit test | | | 4.explain the progress of the project. | | | v)explain the concepts of organizational behaviours. |
| Organizational Behavior: A Background | | | Chapter 11  Pg 234-235 | | | | Board & chalk | | | | | | Knowledge | | | Unit test | | |
| 38 | Selecting Right Person for Job | | | Chapter 11  Pg 235-237 | | | | Board & chalk | | | | | | Understanding | | | Unit test | | |
| Instruction in Best Methods | | | Chapter 11  Pg 237 | | | |
| 39 | Motivation | | | Chapter 11  Pg 238-240 | | | | Board & chalk | | | | | | Understanding | | | Unit test and Assignment | | |
| 40 | The Oldman–Hackman Job Characteristics Model | | | Chapter 11  Pg 240-241 | | | | Board & chalk | | | | | | Understanding | | | Unit test and Assignment | | |
| 41 | Working in Groups | | | Chapter 11  Pg 241 | | | | Board & chalk | | | | | | Knowledge | | | Unit test and  Group Discussion | | |
| Becoming a Team | | | Chapter 11  Pg 241-243 | | | | Board & chalk | | | | | | Knowledge | | |
| 42 | Decision Making | | | Chapter 11  Pg 243-245 | | | | Board & chalk | | | | | | Understanding | | | Unit test and  and Assignment | | |
| Leadership | | | Chapter 11  Pg 245-247 | | | | Board & chalk | | | | | | Understanding | | | Unit test and  Group Discussion | | |
| 43 | Organizational Structures | | | Chapter 11  Pg 247-249 | | | | Board & chalk | | | | | | Understanding | | | Unit test and Assignment | | |
| 44 | Stress | | | Chapter 11  Pg 255 | | | | Board & chalk | | | | | | Understanding | | | Unit test | | |
| 45 | Health and Safety | | | Chapter 11  Pg 255-256 | | | | Board & chalk | | | | | | Knowledge | | | Quiz | | |
| 46 | Case Studies | | | - | | | | PPT | | | | | | Analysis | | | Group Discussion and Assignment | | |

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| **TEXT BOOKS** | | | |
| **S.No** | **Title of the book** | **Author** | **Publisher** |
| 1. | Software Project Management | Bob Hughes and MikeCotterell | Third Edition, TATA McGraw Hill Edition, 2004 |
| 2. | Software Project Management In Practice | P.Jalote | Pearson Education, 2000 |
| **REFERENCE BOOKS** | | | |
| 3. | Managing Global Projects | Ramesh Gopalaswamy | Tata McGraw Hill, 2001. |
| 4. | Software Project Theory | Royce | Pearson Education, 1999 |
| **WEB REFERENCES** | | | |
| <http://en.wikipedia.org/wiki/Software_project_management>  <https://www.comp.glam.ac.uk/staff/dwfarthi/projman.htm> | | | |

**GAP ANALYSIS**

The syllabus of the instructional succeeds in imparting the basic knowledge of Software Project Management. However it does not cover the usage of Software Project Management tools currently used in industry. Introduction to the widely used Microsoft Software Project Management tool “Microsoft Project 2010” will be given as content beyond syllabus to fill the gap.

**Content beyond syllabus:**

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| --- | --- | --- | --- |
| **S.No** | **Topic** | **Hours** | **Mode of delivery** |
| **1.** | Introduction to Microsoft Project 2010 tool | **5** | PPT & Laboratory Training |

**Content beyond syllabus mapping with PEO and PO**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **CA5303 /Software Project Management** | | | | | | | | | | | | | | |
| PO mapping with Content beyond syllabus | a | b | | c | d | | e | f | g | h | i | j | k | l |
|  |  | |  |  | |  |  |  | X |  |  |  |  |
| PEO mapping with Content beyond syllabus | Preparation | | Core  competence | | | Breadth | | | | Professionalism | | Learning Environment | | |
| X | | X | | |  | | | |  | |  | | |

**Internal marks Assessment Method**

**Test : 10**

**Attendance : 5**

**Assignment : 5**

**Total : 20**

**ASSIGNMENTS**

|  |  |
| --- | --- |
| **A. No** | **Assignment Titles** |
| I  (I UNIT & II UNIT) | 1. Explain the activities covered by Software project Management.  2. Explain stepwise Project Planning.  3. How Cost Benefit analysis is done in a Software Project?  4. Write Briefly about Cash flow forecasting.  5. Elaborate Risk Evaluation. |
| II  (III & IV UNIT) | 1. Discuss in detail Sequencing and Scheduling. 2. Explain forward Pass and Backward Pass. 3. Write in detail about Change Control. 4. Explain the types of contracts and the stages in the contract placement.   5. Elaborate Cost monitoring. |
| III  (V UNIT) | 1. Explain the Oldman-Hackman job characteristics Model. 2. In Detail explain Decision Making process. 3. Discuss Organizational Structures. 4. Give the importance of Motivation. 5. Discuss the content of project plan for small projects. |
| IV | Using Microsoft Project 2010 software Prepare the following for a Mini-Project   1. Define the work calendar 2. Create a pool of resources 2. Create activities (tasks) 4. Assign resources to tasks 3. Construct a Project Plan 6. Produce a Gantt Chart and Network Diagram 4. Estimate the total project duration |

**TEST PORTION**

|  |  |  |  |
| --- | --- | --- | --- |
| **S. No** | **Name of the Test** | **Test Units** | **Examination Date** |
| 1. | Cycle I | Unit 1 |  |
| 2. | Cycle II | Unit 2 & 3 |  |
| 3. | Model | Full Portion |  |

**Instructional in-charge signature HOD Signature**

**ASSIGNMENTS**

|  |  |  |
| --- | --- | --- |
| **A. No** | **Assignment Titles** | **Assessment level** |
| I  (I UNIT & II UNIT) | 1. Explain the activities covered by Software project  Management.  2. Explain stepwise Project Planning.  3. How Cost Benefit analysis is done in a Software Project?  4. Write Briefly about Cash flow forecasting.  5. Elaborate Risk Evaluation. | 1. Understanding  2. Understanding  3. Application  4. Application  5. Application |
| II  (III & IV UNIT) | 1. Discuss in detail Sequencing and Scheduling. 2. Explain forward Pass and Backward Pass. 3. Write in detail about Change Control. 4. Explain the types of contracts and the stages in the contract placement.   5. Elaborate Cost monitoring | 1. Understanding  2. Application  3. Understanding  4. Understanding  5. Understanding |
| III  (V UNIT) | 1. Explain the Oldman-Hackman job characteristics Model. 2. In Detail explain Decision Making. 3. Discuss Organizational Structures. 4. Give the importance of Motivation. 5. Case Studies. | 1. Understanding  2. Understanding  3. Understanding  4. Understanding  5. Analysis |
| IV | Using Microsoft Project 2010 software Prepare the following for a Mini-Project   1. Define the work calendar 2. Create a pool of resources 3. Create activities (tasks) 4. Assign resources to tasks 5. Construct a Project Plan 6. Produce a Gantt Chart and Network Diagram 7. Estimate the total project duration | Application |