|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| D:\UAAR\UIIT\courseOutlineCommittee\CourseContents_Final_V02\New folder\logo4.png | **PMAS Arid Agriculture University Rawalpindi**  **University Institute of Information Technology** | | | | C:\Users\Shahid\Downloads\IMG-20210824-WA0001.jpg |
| CS-652 Software Project Management | | | | | | |
| **Credit Hours** | | **3(3-0)** | **Prerequisites** | **N/A** | | |
| **Teacher:** | |  | | | | |

|  |
| --- |
| **Course Objective:** In this course, students will distinguish between functional and technical managers' roles in software projects, create project management plans, assess and suggest improvements to existing practices, and apply schedule and cost estimation techniques for project estimation. |
| **Teaching Methodology:** |
| Lectures, Assignments, Projects, Presentations, etc. Major component of the course should be covered using conventional lectures. |
| **Courses Assessment:** |
| Exams, Assignments, Quizzes, Project, Presentations. Course will be assessed using a combination of written examinations and project(s). Practical evaluation, using rubrics, is encouraged and suggested to make up around 20% of the course. |
| **Reference Materials:** |
| 1. Information Technology Project Management, Schwalbe, K., 9th Edition (2019), Cengage Learning. 2. Software Project Management, Hughes, B. & Cotterell, M., 6th Edition (Oct. 2017). McGraw-Hill Higher Education. 3. Effective Project Management, Robert, K., Wiley, 2011. |

|  |  |  |
| --- | --- | --- |
| **Course Learning Outcomes (CLOs):** | | |
| At the end of the course the students will be able to: | **Domain** | **BT Level\*** |
| 1. State the concepts of project management in the context of software development management process. | C | 2 |
| 1. Analyse various project management techniques to initiate, plan, execute and evaluate given problem. | C | 4 |
| 1. Develop Software project management artefacts i:e SOW, SRS, and Project Planning documents to manage the project based on client needs. | C | 5 |
| 1. Illustrate an appropriate project management approach through an evaluation of the business context and scope of the project. | C | 3 |
| \* BT= Bloom’s Taxonomy, C=Cognitive domain, P=Psychomotor domain, A= Affective domain | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Mapping of CLO with PLO** | | | |  |
| **Program Learning Outcomes (PLO’s)** | **CLO’s for Software Project Management** | | |  |
| **CLO-1** | **CLO-2** | **CLO-3** | **CLO-4** |
| **PLO-1** | **✓** |  |  |  |
| **PLO-2** |  |  |  |  |
| **PLO-3** |  |  |  |  |
| **PLO-4** |  | **✓** |  |  |
| **PLO-5** |  |  |  |  |
| **PLO-6** |  |  |  |  |
| **PLO-7** |  |  |  |  |
| **PLO-8** |  |  |  |  |
| **PLO-9** |  |  |  |  |
| **PLO-10** |  |  |  |  |
| **PLO-11** |  |  | **✓** | **✓** |
| **PLO-12** |  |  |  |  |

|  |  |  |
| --- | --- | --- |
| **Week** | **Lecture** | **Lecture Details** |
| **1** | Lecture-I | Introducing Project Management, Basics of Software project management |
| Lecture-II | Common tools and techniques and project success factors |
| Lecture-III | SDLC ISO-12207 |
| **2** | Lecture-I | Project Management Processes, Key elements of the project management framework |
| Lecture-II | PMI process, PMI and Prince 2 |
| Lecture-III | Process Groups and Knowledge Areas, Planning process |
| **3** | Lecture-I | Project Scope Management, Project Charter, The knowledge area of Project Scope Management |
| Lecture-II | Stakeholder Analysis, Stakeholder Roles and Responsibilities |
| Lecture-III | WBS |
| **4** | Lecture-I | Software Project Planning, Estimating, Scheduling |
| Lecture-II | Defining Life Cycle Model, Project Schedule |
| Lecture-III | Project Activity Planning |
| **5** | Lecture-I | Software Project Time Management, Activity Sequencing |
| Lecture-II | Types of Dependencies, Network Diagrams |
| Lecture-III | Critical Path Method, Arrow Diagramming Method ADM |
| **6** | Lecture-I | Software Project Time Management, Activity on Arrow (Arrow Diagramming) |
| Lecture-II | The forward pass, The Backward pass |
| Lecture-III | PERT |
| **7** | Lecture-I | Software Project Risk Management |
| Lecture-II | Software Risk Management |
| Lecture-III | Potential Negative Risk Conditions Associated with Each Knowledge Area |
| **8** | Lecture-I | Software Project Communication Management |
| Lecture-II | Conflict Management |
| Lecture-III | Managing Conflict – STAR |
| **Mid Term Exams** | | |
| **9** | Lecture-I | Software Project Selection Methods, Cost benefit analysis, Financial Return methods |
| Lecture-II | Net Profit, Net Present Value Analysis |
| Lecture-III | CBA- Discount Factor |
| **10** | Lecture-I | Software Project Selection Methods |
| Lecture-II | Return on investment (ROI) |
| Lecture-III | IRR |
| **11** | Lecture-I | Project Procurement Management  Contracts, Project procurement process |
| Lecture-II | Planning, purchases and acquisitions, Types of contracts |
| Lecture-III | Request for proposal, Statement of work |
| **12** | Lecture-I | Software Project Human Resource Management |
| Lecture-II | Resource Allocation, Responsibility Assignment Matrices RAM |
| Lecture-III | RAM Showing Stakeholder Roles |
| **13** | Lecture-I | Software Project Estimations, Size of Software Project |
| Lecture-II | Cocomo model |
| Lecture-III | Function point Analysis, Object point Analysis |
| **14** | Lecture-I | Software Outsourcing |
| Lecture-II | Project Management in Globally Distributed Environments |
| Lecture-III | Agility in Software Project Management |
| **15** | Lecture-I | Software Quality Management |
| Lecture-II | Quality Control Parameters and Measurement |
| Lecture-III | Quality Enhancement |
| **16** | Lecture-I | Revision/Presentations |
| Lecture-II | Revision/Presentations |
| Lecture-III | Revision/Presentations |
| **Final Term Exam** | | |