Dr. Vishwanath Karad
MIT WORLD PEACE UNIVERSITY | PUNE
TECHNOLOGY, RESEARCH, SOCIAL INNOVATION & PARTNERSHIPS

COURSE STRUCTURE

Course Code				
Course Category	**Core**			
Course Title	**Software Engineering**			
Teaching Scheme and Credits	**L**	**T**	**Laboratory**	**Credits**
Weekly load hrs.	**3**	**1**	**--**	**2**

Pre-requisites: Basic knowledge of computer system.

Course Objectives:

1. To introduce basics of System Analysis and Design.
2. To develop broad understanding of the discipline of software engineering
3. To explain importance and working of process models used in software development process
4. To introduce an agile environment for software development.

Course Outcomes:

1. To the analysis and design of complex systems
2. To apply software engineering principles and techniques to develop, maintain and evaluate large-scale software systems
3. To produce efficient, reliable, robust and cost-effective software solutions
4. To work as an effective member or leader of software engineering teams and to understand and meet ethical standards and legal responsibilities

Learning Process:

Reference Books

1. Software Engineering Fundamentals, Oxford Indian Reprint, 2012, Ali Behforroz, Frederick J. Hudson
2. Software Engineering Concepts, Richard Fairley, Tata McGraw Hill Edition, 2008.
3. Fundamentals of Software Engineering, Rajib Mall, PHI Learning Pvt. Ltd. 2009
4. System Analysis and Design: Ellias M. Awad (Galgotia)
5. Software Engineering–A Practitioner's Approach (7th Ed): Roger S. Pressman (Mc-Graw Hill)
6. Analysis and Design of Information Systems: James A. Senn (McGraw Hill)

Pedagogy:

Participative learning, Case study

Ms. Smita Patil	Dr. Rajeshree Khande	Dr. C. H. Patil	Dr. Shubhalaxmi Joshi
Programme Head	Associate HOS	HOS/BOS Chairman	Associate Dean
BCA	School of Computer Science	School of Computer Science	MIT-WPU

Assessment Scheme:

Class Continuous Assessment (CCA) 50 marks

Assignments	Mid Term Exam	Attendance	Case Study
10	20	10	10

Syllabus:

Module	Contents	Work load in hrs.		
		Theory	Lab	Access
1	**System Concepts** System Definition,Characteristics of a System : Organization, Subsystem, Interaction, Interdependence, Integration, Central objective, Standards, Black-box Elements of a system Outputs, Inputs, Processor(s), Control, Feedback, Environment, Boundaries, Interface Physical & Abstract Systems Open & Closed Systems, Computer-based Systems : MIS ,DSS	5	-	-
2	**Software and Software Engineering** The Nature of Software Defining Software Software Application Domains Legacy Software Software Engineering, Software Engineering Practice The Software Process The Essence of Practice General Principles, Software Myths	8	-	-
3	**System Development Life Cycle (SDLC)** Introduction, Activities of SDLC Preliminary Investigation Determination of System Requirements Design of System Development of Software System Testing (Unit Testing, Integration testing, System Testing) System Implementation & Evaluation System Maintenance	8	-	-
4	**Process Models** A Generic Process Model Prescriptive Process Models: The Waterfall, Incremental model Evolutionary Process Models: Prototyping, Spiral Model	4	-	-

Ms. Smita Patil Programme Head BCA	Dr. Rajeshree Khande Associate HOS School of Computer Science	Dr. C. H. Patil HOS/BOS Chairman School of Computer Science	Dr. Shubhalaxmi Joshi Associate Dean MIT-WPU

	Concurrent Models			
5	**An Agile View of Process** What is an Agility?, What is an Agile Process? The Politics of Agile Development Human Factors ,Agile Process Models: Extreme Programming, Adaptive Software Development, Dynamic Systems Development,Method Lean Agile and Safe Agile	5		