



SYMBIOSIS INTERNATIONAL (DEEMED UNIVERSITY)

(Established under section 3 of the UGC Act 1956)

Re - accredited by NAAC with 'A' Grade

Founder: Prof. Dr. S. B. Mujumdar, M.Sc., Ph.D. (Awarded Padma Bhushan and Padma Shri by President of India)

(Established under section 3 of the UGC Act 1956, by notification No.F.9-12/2001-U3 Government of India)

Sub Committee for Curriculum Development IT Management Specialization

Format to submit syllabus

Course Name: Requirements Management

Course Code: T3095

(UG/PG): PG

Number of Credits: 3

Level: 4

Learning Objective(s): Understand the basic concepts of software requirements engineering using traditional software approach as well as by using Agile Development (with major focus on Scrum and Extreme Programming).
Learn to apply the concepts of requirement elicitation, analysis and development to cases of software development.

Pedagogy: Class room sessions for conceptual knowledge building, discussion based on research papers on requirement engineering, Case discussion and analysis of the solution for the corresponding case.

Pre-learning: System Analysis and Design

Course Outline:

Sr.No.	Topic	Hours
1	Basics of Software Requirements : Requirements Defined, Levels of Requirements Information, Why are Requirements Important, Standards & Models Related to Requirements, Requirements Engineering Process	3
2	Requirements Elicitation: Business Level Requirements, Functional Requirements – Business Requirements, Application Requirements, Integration Requirements and Information Requirements, their contribution to enterprise architecture, Non-Functional Requirements and their effect on deployment, nodes and location, Stakeholders, Requirements Elicitation Techniques	3
3	Requirements Analysis: Requirements Modeling, Identifying Product Requirements, Prototyping, Prioritizing Requirements	3
4	Requirements Specification: Contents of Software Requirements Specification Attributes of requirements, Views of requirements	3
5	Requirements Verification: Requirements Review, Requirements Sign off	3
6	Conceptual Framework of Agile Development: Iterative and incremental development – what and why?, Introduction to adaptive (agile) processes – Agile Manifesto, XP and Scrum	3
7	Program/Project level view of requirements in agile development: The concepts of vision, features and program backlog, user stories and team backlog; Agile Teams for feature, component, system, release and product management, Features and non functional requirements, their role in program backlog, release train – release and shippable increments	3
8	User Stories: What a user story is and what it is not; characteristics of a good user story, forms of user stories, user story acceptance criterion, splitting user stories, modeling user stories.	2
9	Eliciting and Writing User Stories: Elicitation and capturing – how much?, interviews, questionnaire, observations, writing stories with right characteristics (independent, negotiable, testable, small, estimatable etc.).	2
10	Guidelines for good user stories: Goal stories, slice and cake, closed stories, include use roles and other useful guidelines Story smells – too small stories, interdependent stories, goldplating, too many detail, bringing in user interface too early	2
11	Handling Non Functional Requirements: Expressing non functional requirements as user stories, exploring and testing non functional requirements for usability, reliability and performance, supportability and design constraints	3
12	Acceptance Testing with User Stories: Acceptance story tests, unambiguous and comprehensive acceptance tests, acceptance test driven development, automated testing	3
13	Estimating User Stories Story points, estimating for the team, using story points	3

14	Planning a release and an iteration: Prioritize stories – risky and mixed stories, select iteration length and using story points for estimating duration, initial velocity, release plan; disaggregating stories in tasks, discussing and accepting the work, estimating for the iteration	3
15	Measuring and Monitoring velocity: The concept of velocity, planned and actual, burndown charts	3
16	Using Stories with Scrum : The scrum team, the product backlog, adding stories to scrum planning and review meetings	3
	Total	45

Books Recommended:

1. Software Requirements by Karl Weigers
Software Engineering by Roger Pressman
2. The Quest for Software Requirements By Roxanne E Miller
3. Software Requirements and Estimation by Swapna Kishor & Rajesh Naik
4. User Stories Applied: For Agile Software Development by Mike Cohn, Addison-Wesley Professional, 2004.
5. Agile Software Requirements: Lean Requirements Practices for Teams, Programs, and the Enterprise by Dean Leffingwell, Addison-Wesley Professional, 2011

Suggested Evaluation Methods:

Case Solving Exercises or mini projects
Presentations
Written tests

Parallel/Similar courses the existing curriculum:

S.No.	Name of the course	Institute where it was offered

Name of Member	Suprika V Shrivastava	Dr. Urvashi Rathod	Prof. Biswajit Mohapatra		
Designation	Assistant Professor	Professor	Visiting Faculty Member at SCIT		
Org. / Inst.	SCIT	Symbiosis Centre for Information Technology	IBM		
Signature					

Name of the Expert: Biswajit Mahopatra

Signature:

Date:3/8/2013

