**Title of Subject : Software Requirement Engineering (SW216)**

**Discipline :** Software Engineering (3rd Semester)

**Effective :** 18 Batch & onwards

**Pre-requisite :** Introduction to Software Engineering

**Assessment :** Theory**:** 20% Sessional, 80% Written Semester Examination

## (20% Mid, 60% Final)

**Credit Hours :** 03 + 0 **Marks :** 100

 **Minimum Contact Hours:** 45

# Specific Objectives of course:

* Learn about the basic of requirement gathering processes.
* Understanding and evaluating Software Requirement Specification.

**COURSE LEARNING OUTCOMES:**

Upon successful completion of the course, the student will be able to:

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| --- | --- | --- | --- |
| **CLOs** | **Description** | **Taxonomy level** | **PLO** |
| 1  | Describe requirements engineering process and analyzing software for developments of cost effective and efficient technical solutions. | C3 | 4 |
| 2 | Documents Software Requirement Specification (SRS) using clear and ambiguous requirements | C3 | 3,10 |
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**PROGRAM LEARNING OUTCOMES (PLOs):**

The course is designed so that students will achieve the following PLOs:

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| 1 | Engineering Knowledge: | ☐ | 7 | Environment and Sustainability:  | ☐ |
| 2 | Problem Analysis: | ☐ | 8 | Ethics: | ☐ |
| 3 | Design/Development of Solutions: | ☑ | 9 | Individual and Team Work: | ☐ |
| 4 | Investigation: | ☑ | 10 | Communication: | ☑ |
| 5 | Modern Tool Usage: | ☐ | 11 | Project Management: | ☐ |
| 6 | The Engineer and Society: | ☐ | 12 | Lifelong Learning: | ☐ |

**Course outline:**

Introduction to Requirements Engineering, Software Requirements, classification of requirements, Requirements process, Levels/layers of requirements, Requirement characteristics, Analyzing quality requirements, Software requirements in the context of systems engineering, Requirement evolution, requirement traceability, requirement prioritization, trade-off analysis, risk analysis and impact analysis, Requirement management, interaction between requirement and architecture, Requirement elicitation, elicitation sources and techniques, Requirement specification and documentation, specification sources and techniques, Requirements validation and techniques, Management of Requirements, Introduction to Management, Requirements Management Problems , Managing Requirements in an Acquisition Organization, Supplier, Organizations, Product Organizations

**Books Recommended:**

1. Wiegers K. &Beatty J., Software Requirements, Microsoft Press, Latest edition.
2. Elizabeth Hull, Ken Jackson and Jeremy Dick, Requirements Engineering, Springer-Verlag London Limited, Latest edition.
3. Chemuturi M., Requirements Engineering and Management for Software Development Projects, Springer New York, Latest Edition.

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| **Approval:** |  |
| **Board of Studies:** | **Resolution No. 02** | **Dated: 29-08-2019** |
| **Board of Faculty:** | **Resolution No. 01** | **Dated: 07-10-2019** |
| **Academic Council:** | **Resolution No. 96.10** | **Dated: 07-10-2019** |