



Sanjay Ghodawat University Kolhapur

Structure and Contents for B.Tech in CSE in School of Computer Science and Engineering Program (AY 2020-21) R0 AME/P/80/00

UOE022: Software Models							
University Open Elective-I (CSE & AIML)							
Lect.	Tut.	Pract.	Credits	Evaluation Scheme			
				Component	Exam	Weightage	Pass %
2	-	-	2	Theory & Practical	FA	50	40
					SA	50	40

Course Description:

This course introduces students to the different software development lifecycle (SDLC) phases used in developing, delivering, and maintaining software products. Students will also acquire basic software development skills and understand common terminology used in the software engineering profession.

Prerequisite: - None

Course Outcomes: After completion of this course students will able to

CO1 Explain² the requirement of software engineering.

CO2 Select⁴ the software life cycle models based on the type of applications.

Syllabus (Theory)

Units	Description	Hours
I	Introduction to Software Engineering: Introduction, the problem domain, software engineering challenges, software engineering approach, Software Process ,characteristics of Software Process, project management process, inspection process, software configuration management process, requirements change management process.	06
II	Software Development Models: Software development life cycle, Waterfall Model, Prototyping Model, Iterative model, Time boxing model, Spiral Model, Incremental Model and V Model.	06



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|------------|---|-----------|
| III | Software Architecture and Design:
Role of Software Architecture, architecture views, components and connector views, architectural styles, function oriented design, design principles, module level concepts, coupling, cohesion, design notation and specification, object oriented design with OO concept. | 06 |
| IV | Software Coding:
Programming principles and guidelines, coding errors, structural programming, information hiding, programming practices, coding standards, coding process, an incremental coding, test driven development, pair programming source control and build. | 06 |

Textbooks:

1. Software Engineering: A precise Approach - Pankaj Jalote (Wiley India)
2. Software Engineering Principles & Practices by Rohit Khurana ITLESL (2nd Edition)
Vikas Publishing House Pvt. Ltd.

Reference books:

1. Fundamentals of Software Engineering - Rapit Mall (3rd Edition)(PHI)
2. Software Engineering by Jan Sommerville (9th Edition) Pearson