Karunya INSTITUTE OF TECHNOLOGY AND SCIENCES

(Declared as Deemed to be University under Sec.3 of the UGC Act, 1956)

A CHRISTIAN MINORITY RESIDENTIAL INSTITUTION

AICTE Approved & NAAC Accredited

Course Plan

Name of the School:	**Engineering and Technology**
Name of the Department:	**Division of CSE**

Details of the Faculty Members:

Details	Course Instructor
Name of the Faculty	Dr.E.Bijolin Edwin
Designation	Assistant Professor
Contact Details	9486129746
Email ID	bijolin@karunya.edu
Office Location	CSE Block 1 CS001
Classroom for Teaching	CS501
Lecture Hours / Time	Tuesday Hr 2, Wednesday Hr 4, Friday Hr 2
Batch allotted	1
Consultation Timings	4-4:30 PM
Intercom number	4023

Course Details:

Course Code	20CS2001	**Credit:** 3:0:0
Course Title	Agile Software Development	
Semester	Even Semester	
Year	III Yr	**Branch:** CSE & AI

Course Outcomes:

CO1	describe the principles and practices of Agile methods in software development.
CO2	explain the processes and strategies of the various Agile technologies in terms of work products, roles and practices.
CO3	choose appropriate managing techniques to solve issues in real time applications.
CO4	describe the techniques and tools used to improve team collaboration and software quality.
CO5	identify and address the most common problems encountered in the use of Agile methods.
CO6	apply Agile practices when multiple teams are working on a single project.

Syllabus:

Course Articulation Matrix:

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO1 0	PO1 1	PO1 2	PSO 1	PSO 2	PSO 3
CO	3	3	2	-	2	-	-	-	-	-	-	2	3	1	3
CO	3	3	2	2	2	-	-	-	-	-	-	2	3	1	3
CO	3	3	2	3	3	-	-	-	-	-	-	2	3	1	3
CO	2	2	3	2	3	-	-	-	-	-	-	2	3	1	2
CO	1	1	3	3	3	-	-	-	-	-	-	2	3	1	1
CO	3	3	3	2	3	-	-	-	-	-	-	2	3	1	3
Av	3	3	2	-	2	-	-	-	-	-	-	2	3	1	3

Note:

- *Enter correlation levels 1, 2 or 3 as defined below:*
- *Slight (Low) :1; Moderate (Medium):2; Substantial (High):3*
- *If there is no correlation, insert "-" in the cells*
- *For open elective courses, PSOs can be excluded*

Teaching plan

Lect. No.	Topics to be covered	Book used for teaching	Page Nos. / Topic No	Teaching Method
1	Introduction	Overview from book and internet	-	PPT
2	Agile Methodology	T1, Pg.No. 07–10	1	PPT
3	Agile software development	T1, Pg.No. 11 –14	1	PPT
4	History of Agile project management	T1, Pg.No. 43-57	3	PPT
5	Agile manifesto and principles	T1, Pg.No. 17-25	2	PPT
6	Agile benefits	T1, Pg.No. 43	3	PPT
7	Agile approaches vs. Historical approaches	T1, Pg.No. 57- 61	3	PPT
8	Agile Design Principles	T1, Pg.No. 26-33	2	PPT
9	Agile Design	T2, Pg.No. 86-90	7	PPT /Demo
10	Single Responsibility Principle	T2, Pg.No.95- 98	8	PPT /Demo
11	Open Closed Principle	T2, Pg.No. 99-110	9	PPT /Demo
12	Liskov Substitution Principle	T2, Pg.No. 111 –126	10	PPT /Demo
13	Dependency Inversion Principle	T2, Pg.No. 127- 134	11	PPT /Demo
14	Interface Segregation Principle	T2, Pg.No. 135 -145	12	PPT /Demo
15	Agile Approaches	T1, Pg.No. 63-65	4	PPT /Demo

16	Overview of Agile approaches	T1, Pg.No. 65-69	4	PPT /Demo
17	Lean	T1, Pg.No. 69 – 72	4	PPT /Demo
18	Kanban	T1, Pg.No. 72	4	PPT /Demo
19	SCRUM	T1, Pg.No. 73-75	4	PPT /Demo
20	Extreme Programming	T1, Pg.No. 76-80	4	PPT
21	Agile work environment	T1, Pg.No. 81-85	5	PPT
22	Agile work products	T1, Pg.No. 85-90	5	PPT
23	Roles and practices	T1, Pg.No. 93- 102	6	PPT
24	Agile Planning and Execution	T1, Pg.No. 115- 117	7	PPT
25	Agile Planning	T1, Pg.No. 118- 120	7	PPT
26	Defining the product vision	T1, Pg.No. 121 – 126	7	PPT
27	Product roadmap	T1, Pg.No. 126- 135	7	PPT
28	Release planning	T1, Pg.No. 139 – 152	8	PPT
29	Sprints planning	T1, Pg.No. 155 – 157	8	PPT
30	Tracking progress	T1, Pg.No. 163 – 170	9	PPT
31	Agile roles in the Sprint	T1, Pg.No. 172 -174	9	PPT
32	Sprint review and retrospective	T1, Pg.No. 187 -191	10	Activity based learning
33	Agile Management	T1, Pg.No. 203– 208	12	PPT
34	Agile scope management	T1, Pg.No. 208 – 213	12	PPT
35	Managing procurement	T1, Pg.No. 216 –224	12	PPT
36	Time management	T1, Pg.No. 227–237	13	PPT
37	Cost management	T1, Pg.No. 238 - 244	13	PPT
38	Managing team dynamics	T1, Pg.No. 245 – 259	14	PPT
39	Managing communication	T1, Pg.No. 263 – 266	14	PPT
40	Managing quality	T1, Pg.No. 269 – 283	15	PPT
41	Managing risk	T1, Pg.No. 286-291	15	PPT
42	Agile planning in Multi-Team Project	T1, Pg.No. 311–315	17	Activity based learning
43	Scaling across Agile teams	T1, Pg.No. 318–322	17	Activity based learning
44	Scrum of scrums	T1, Pg.No. 314– 315	17	Activity based learning
45	multi-team coordination with LeSS	T1, Pg.No. 323–327	17	PPT
46	approaches to managing change	T1, Pg.No. 345–348	18	PPT
47	Platinum edge's change roadmap	T1, Pg.No, 349–359	18	PPT

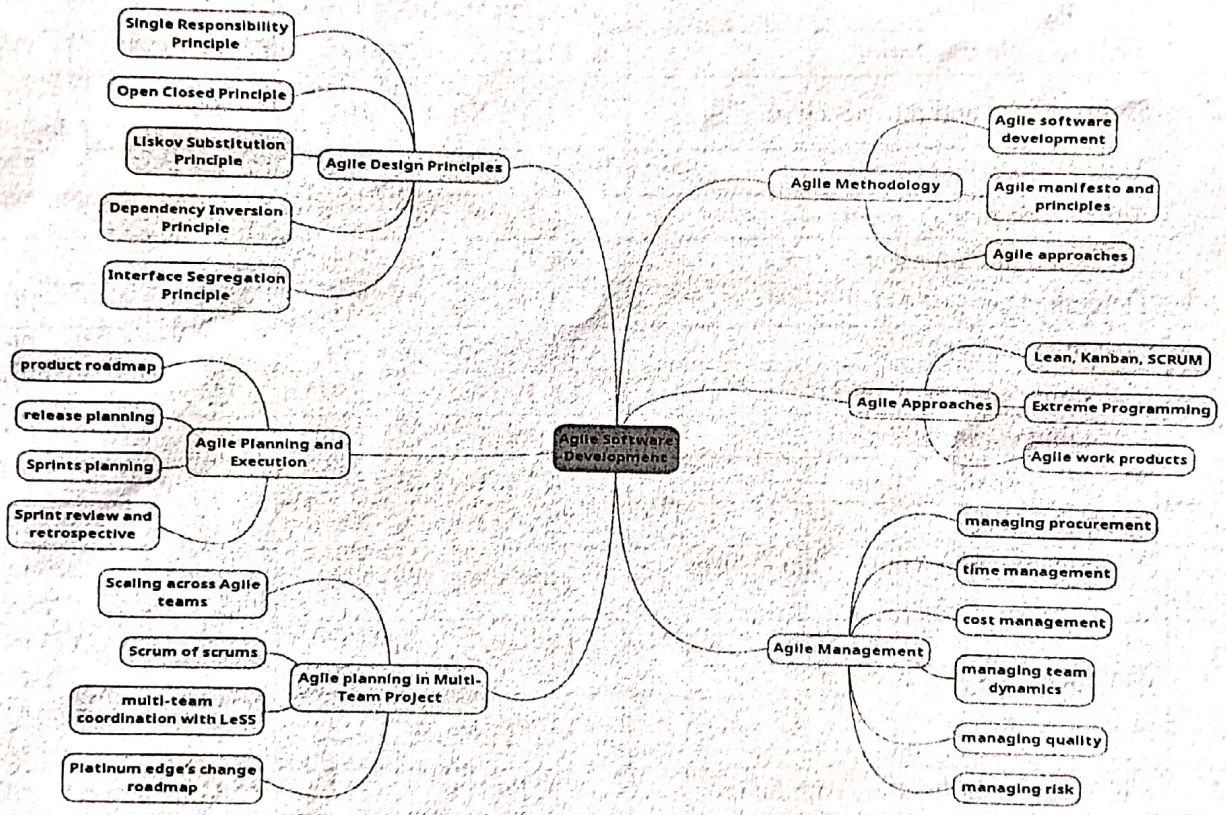
Text Books

1. Mark C. Layton and Steven J Ostermiller, "Agile Project Management", John Wiley & Sons, Inc., 2nd Edition, 2017, ISBN: 978-1119405696.
2. Robert C. Martin, "Agile Software Development, Principles, Patterns, and Practices", Pearson Education Limited, 2014, ISBN: 978-1292025940.

Reference Books

1. Andrew Stellman and Jennifer Greene, "Learning Agile: Understanding Scrum, XP, Lean, and Kanban", O'Reilly, 2014, ISBN: 978-1449331924.
2. Mark C. Layton, "Scrum For Dummies", John Wiley & Sons Inc., 2015, ISBN: 978□ 1118905753.
3. Ken Schwaber and Mike Beedle, "Agile Software Development with Scrum", Prentice Hall, 2002, ISBN: 978-0130676344.
4. Mike Cohn, "Succeeding with Agile: Software Development Using Scrum", Addison Wesley, 2009, ISBN-13: 978-0321579362.

Concept Map:



Assessment Pattern:

Bloom's Category	Continuous Internal Assessment Tests			Qualitative Assessment (QA)			End Semester Examination
	IA 1	IA 2	IA 3	QA1	QA2	QA3	
Remember	10	20	20				30
Understand	20	10	10				30
Apply	10	10	10	10	10	-	20
Analyze	-	-	-				20
Evaluate	-	-	-				-
Create	-	-	-				-
Total Marks	40	40	40	(10+10) /2			100

QA1 : Mini Project presentation

QA2 : MCQ

	Signature	Date
Course Instructor		5/12/23
HoD		5/12/23