

### **Course Outcomes:**

- Gain knowledge of different software development processes.
- Learn techniques to elicit, analyze and document software requirements.
- Students will develop a professional mindset with a strong focus on ethics, communication and lifelong learning in the field of software engineering.

### **Course Material:**

## All the course material will be available on Canvas.

In the beginning of the course, all the students will receive an invite on their respective e-mail IDs for joining the course.

I will use e-mail Ids that you have filled in your Admission forms. If some of you will be using any alternate e-mail ID then do update me.

## Link to Course Material: Will update as the session starts

**All the assignments, quizzes and tests will be maintained online on Canvas only.** Communication via email is preferable. So, do email me for any queries or information regarding joining the course.

For queries related to course material, the in-built messaging system of canvas is recommended.

## **Course Schedule**

### **Total Lectures: 43**

Class Time: as per time-table approved by the College.

Room No: 129 (1<sup>st</sup> Floor, Old Building Govt. College Hamirpur)

All the practical classes will be conducted in the Department of Computer Science Lab (Room No: 128) on 1<sup>st</sup> floor of old building of Govt. College Hamirpur.

# The schedule of lectures will be in accordance with the approved academic calendar of the college.

Lecture	Introduction	
Lecture: 1	Software Process	
Lecture: 2	Software Process Models	
Lecture: 3	Increment and Prototype Model	
Lecture: 4	Evolutionary and Spiral Model	
Lecture: 5	Software Requirements	
Unit Test-1		
Lecture: 6	Requirement Elicitation Process	
Lecture: 7	Requirements Validation and Management (Part-I)	
Lecture: 8	Requirements Validation and Management (Part-II)	
Lecture: 9	Software Prototyping	
Lecture: 10	Rapid Prototyping Techniques & UI Prototyping	

Lecture: 11	Requirement Analysis and Modeling	
Lecture: 12	Structural Analysis and Data Dictionary	
Lecture: 13	Software Design Process	
Unit Test- 2		
Lecture: 14	Software Design Concepts	
Lecture: 15	Modularity	
Lecture: 16	Design Heuristic and Design Document	
Lecture: 17	Architectural Design	
Lecture: 18	Architectural Styles	
Lecture: 19	Transform and Transaction Mapping	
Lecture: 20	User Interface Design	
Lecture: 21	The SCM Process	
Lecture: 22	Identification and Version Control	
Unit Test-3		
Lecture: 23	Change Control & Configuration Audit	
Lecture: 24	Software Measurements	
Lecture: 25	Size Metrics/ Size Measure (LOC)	
Lecture: 26	Function Oriented Metrics	

Lecture: 27	Data Structure and Information Flow Measure
Lecture: 28	Estimation for Software Projects
Lecture: 29	Empirical Estimation Models (COCOMO)
Lecture: 30	Project Scheduling
Lecture: 31	Testing
Lecture: 32	Black Box Testing
Lecture: 33	Structural Testing
Lecture: 34	Regression Testing
Lecture: 35	Software Testing Strategies (Part-I)
Lecture: 36	Software Testing Strategies (Part-II)
Lecture: 37	Integration Testing
Lecture: 38	Validation and System Testing
Lecture: 39	Debugging
Lecture: 40	Reverse Engineering
Lecture: 41	Re engineering
Lecture: 42	Wrappers
Lecture: 43	Case study of CASE tools

Unit Test- 4