CS335
Software Engineering and Software Process models

Review

Software process models

- Waterfall model
- V-model (Validation & Verification)
- Prototype model
- Spiral model (less focus)
- Incremental and Iterative model
  - Agile method

- Advantages and disadvantages of each model
- When apply what model

Phases in software development

- OO and Structured analysis approaches
- Analysis phase
  - Functional aspect, Informational aspect and Behavioral aspects
  - Functional and non functional requirements
    - Requirements engineering
    - Discovery functional requirement
  - Different models/diagrams for different aspects
    - OO approach: Use case diagram, Class diagram, Sequence diagram, Activity diagram, State Transition diagram
    - Structured Analysis: ER, DFD (less focus)

- System design
  - Fundamental concepts in system design
  - Architectural design (different patterns, how system architecture affects non functional criteria)
  - GUI design (before designing, principles, interaction styles, evaluation)
  - DB design
- Testing
  - Static verification and dynamic verification/testing
  - Unit testing, Integration testing, System testing, Acceptance testing
- Maintenance

Software Project management

- Success/Faillure criteria of software project
- Activities of project manager
  - Planning and scheduling
  - Risk management (less focus)
  - Project cost estimation
    - Models for cost estimation

Agile software development

- XP
  - What is it ?
  - How it works
- Scrum
  - Concepts in Scrum
  - How it works
- Advantages/Disadvantages