

Overview of topics

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CSE 403

Lecture 2

Lifecycle

- Requirements
- Design (architecture, modules, classes, routines)
- Implementation
- Testing
- Maintenance

Program analysis

- Static analysis (types, verification)
- Dynamic analysis (creating, selecting, evaluating)
- Model checking (exhaustive testing via static optimization)
- Manual:
 - Code reviews
 - Understanding a codebase or library

Correcting problems

- Bug reporting
- Debugging
 - Reproduce
 - Minimize/localize
 - Fix
 - Generalize
 - Prevent
- Refactoring

Discipline of development

- Teamwork & coordination
- Process
- Tools
 - Version control
 - Build systems

Love your users

- User interfaces
- Documentation