

Software Testing and Quality - Course Study Sheet

Course: Software Testing and Quality Cluster: Computing and Data

Develops test design, unit and integration testing, automation, code review, and quality reasoning.

Five-module course map

Module	Active evidence to produce
1. test cases and oracles	Explain the central idea, complete an application, diagnose one plausible error, and connect it to the next module.
2. unit testing	Explain the central idea, complete an application, diagnose one plausible error, and connect it to the next module.
3. integration testing	Explain the central idea, complete an application, diagnose one plausible error, and connect it to the next module.
4. property and boundary testing	Explain the central idea, complete an application, diagnose one plausible error, and connect it to the next module.
5. quality processes	Explain the central idea, complete an application, diagnose one plausible error, and connect it to the next module.

Reliable learning method

state expected behavior, partition inputs, target boundaries, automate repeatable checks, and investigate failures

Representative application

Design tests for a date-calculation function, including leap years, invalid dates, boundaries, and invariants.

Weekly study cycle

1. Preview the objective and write two questions. 2. Attend or engage and capture decisions rather than every sentence. 3. Reconstruct the main idea within 24 hours. 4. Complete independent practice. 5. Analyze the first unsupported move on each error. 6. Use feedback. 7. Schedule a delayed mixed recheck.

Self-check before moving on

Can you explain the idea without notes, complete a fresh task, detect a near-miss, verify the result, and state a limitation? Watch especially for: measuring quality by test count or code coverage alone without meaningful assertions and risk-based cases.

What to save

a test plan, automated suite, defect report, and coverage rationale

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