

Digital Logic - Course Study Sheet

Course: Digital Logic Cluster: Engineering Foundations

Studies Boolean algebra, combinational and sequential circuits, timing, and digital system design.

Five-module course map

Module	Active evidence to produce
1. number systems	Explain the central idea, complete an application, diagnose one plausible error, and connect it to the next module.
2. Boolean logic	Explain the central idea, complete an application, diagnose one plausible error, and connect it to the next module.
3. combinational design	Explain the central idea, complete an application, diagnose one plausible error, and connect it to the next module.
4. sequential logic	Explain the central idea, complete an application, diagnose one plausible error, and connect it to the next module.
5. timing and finite-state machines	Explain the central idea, complete an application, diagnose one plausible error, and connect it to the next module.

Reliable learning method

specify behavior, create truth table or state model, minimize logically, implement, simulate, and test edge sequences

Representative application

Design a finite-state controller and verify transitions, reset behavior, outputs, and timing assumptions.

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: minimizing expressions before defining behavior or ignoring timing, hazards, reset, and unreachable states.

What to save

a digital design with specification, logic model, implementation, testbench, and verification

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