

Engineering Thermodynamics - Course Study Sheet

Course: Engineering Thermodynamics Cluster: Engineering Foundations

Studies energy, properties, work, heat, entropy, and cycles for closed and open systems.

Five-module course map

Module	Active evidence to produce
1. properties and state	Explain the central idea, complete an application, diagnose one plausible error, and connect it to the next module.
2. first law	Explain the central idea, complete an application, diagnose one plausible error, and connect it to the next module.
3. control volumes	Explain the central idea, complete an application, diagnose one plausible error, and connect it to the next module.
4. second law and entropy	Explain the central idea, complete an application, diagnose one plausible error, and connect it to the next module.
5. power and refrigeration cycles	Explain the central idea, complete an application, diagnose one plausible error, and connect it to the next module.

Reliable learning method

define system and state, mark mass and energy flows, select property relations, apply balances, and test signs and efficiency

Representative application

Analyze a steady-flow device and reconcile energy transfer, property changes, and stated idealizations.

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: using heat and temperature interchangeably or applying efficiency formulas without system boundaries and state data.

What to save

a thermodynamic analysis with state table, system diagram, balances, and feasibility check

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