

ENGRD 221: ENGINEERING THERMODYNAMICS

Lecture 13: October 4, 2007

Reading Assignments (from Moran & Shapiro, Sixth Edition): Read all of Chapter 6 including the solved example problems.

Topics covered:

- More review problems using the rate form for entropy balance; Rate form at steady state
- Retrieving entropy data from Tables
- Entropy change for ideal gas with non-constant specific heats
- Specific entropy at temperature T and pressure 1 atm ($s^o(T)$)
- Entropy rate balance for control volumes
- Review of work calculation in polytropic processes. Isentropic processes, $pv^k = \text{const.}$
- Relative pressure and volume for air
- Isentropic efficiencies, heat transfer and work in internally reversible steady-state flow processes