

# Thermodynamics In Materials Science Second Edition

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R.T. DeHoff, Thermodynamics in Materials Science, McGraw-Hill, NY, (1993). Over 100 papers in refereed journals. Some recent examples "A Geometrically General Theory for Diffusion Controlled Coarsening,"Acta Metallurgica, 39 (1991) 2349-2360.

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A student who has completed this course will be able to articulate the fundamental laws of thermodynamics and use them in basic problem solving, be able to discriminate between classical and statistical approaches, be able to use thermodynamics to describe the thermal behavior of solid materials, including phase transitions, be able to use ...

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Thermodynamics is a branch of physics that deals with heat, work, and temperature, and their relation to energy, radiation, and physical properties of matter. The behavior of these quantities is governed by the four laws of thermodynamics which convey a quantitative description using measurable macroscopic physical quantities, but may be explained in terms of microscopic constituents by ...

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heat, work, internal, electrical, and chemical energy. The physical science of heat and temperature, and their relations to energy and work, are analyzed on the basis of the four fundamental thermodynamic laws (zeroth, first, second, and third). These principles are applied to various practical systems, including heat engines,

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