DEFINITIONS

Thermodynamics

• The word itself was coined by Joule in 1858 to designate the science of relations between heat and power. Of course, a classical phenomenon in the history of science, its subject matter quickly expanded, and thermodynamics now designates the science of all transformations of matter and energy. *(Perrot, Pierre, A to Z of Thermodynamics Oxford: Oxford University Press, 1998, Eng’g/Ref 621.402103 P461 Reference-Information Section, University Library)*

• The branch of science that deals with the principles, relationships, and conversions between heat and other forms of energy. *(Kaplan, Steven, Wiley Electrical and Electronics Engineering Dictionary, New Jersey: Wiley, 2004, Ref 621.303 K17 Reference-Information Section, University Library)*

• is a branch of physics that studies the effects of changes in temperature, pressure, and volume on physical systems at the macroscopic scale by analyzing the collective motion of their particles using statistics. Roughly, heat means "energy in transit" and dynamics relates to "movement"; thus, in essence thermodynamics studies the movement of energy and how energy instills movement. Historically, thermodynamics developed out of need to increase the efficiency of early steam engines. *(http://en.wikipedia.org/wiki/thermodynamics)*

BOOKS

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Annamalai, Kalyan (2011) *Advanced thermodynamics engineering*. 2nd ed. 621.4021 An613 2011
Cañesares, Charlito L. (2007) *Introduction to thermodynamics*. Eng’g 536.7 C221


De Nevers, Noel (2012) Physical and chemical equilibrium for chemical engineers. 2nd ed. Eng’g 660.2969 D278 2012

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McComas, Stuart T., editor (2004) Thermodynamics exam files 536.7076 T411


Moran, Michael J. (2003) Introduction to thermal systems engineering: thermodynamics and heat transfer 621.402 In61


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JOURNALS

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- Journal of Energy Resources Technology

ELECTRONIC JOURNALS

*Accessible Thru HAU Library Webpage*
Proquest 5000

- Continuum Mechanics and Thermodynamics

INTERNET RESOURCES

*Multimedia and Internet Workstation*
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Thermodynamics from Eric Weisstein's World of Science
Retrieved February 18, 2014 from
http://scienceworld.wolfram.com/physics/topics/Thermodynamics.html
Eric Weisstein’s World of Science is written and maintained by the author as a public service for scientific knowledge and education. Although it is often difficult to find explanations for technical subjects that are both clear and accessible, this web site bridges the gap by placing an interlinked framework of mathematical exposition and illustrative examples at the fingertips of every internet user.

Engineering Thermodynamics - A Graphical Approach
Retrieved February 18, 2014 from http://www.ent.ohiou.edu/~thermo/

This web resource is intended to be a totally self-contained learning resource in Engineering Thermodynamics, independent of any textbook. It is designed to be suitable for a two course sequence for Mechanical Engineering majors. It may, however, be used in any format and for any purpose, including self-study.

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