

<b>Course Title</b>	Structure of Materials
<b>Discipline</b>	Materials Science and Engineering
<b>Course Format (Web or Video)</b>	Video

<b>Instructor</b>	<b>Department</b>	<b>Institute</b>	<b>Email</b>	<b>Phone</b>
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<p><b>Course Outline</b></p> <ol style="list-style-type: none"> <li>1) Bonding and Crystal Structure</li> <li>2) Defects n Crystalline Solids</li> <li>3) Diffusion</li> <li>4) Phase Diagrams</li> <li>5) Phase Transformations</li> <li>6) Microstructure and its effect on Properties</li> </ol>
<p><b>Text/References:</b></p> <ol style="list-style-type: none"> <li>1) E-book on Materials Science and Engineering by Anandh Subramaniam, NMEICT Project, MHRD.</li> <li>2) Materials Science and Engineering (5th Edition) by V. Raghavan, Prentice-Hall of India Pvt. Ltd., 2004</li> <li>3) Callister's Materials Science and Engineering by William D Callister (Adapted by R. Balasubramaniam), Wiley India (P) Ltd., 2007.</li> <li>4) The Science and Engineering of Materials by Donald. R. Askeland &amp; Pradeep Phulé, Cengage Learning, 2006</li> </ol>
<p><b>Suggested hyperlinks:</b></p> <ol style="list-style-type: none"> <li>1) <a href="http://home.iitk.ac.in/~anandh/E-book.htm">http://home.iitk.ac.in/~anandh/E-book.htm</a></li> <li>2) <a href="http://ocw.mit.edu/OcwWeb/Materials-Science-and-Engineering/">http://ocw.mit.edu/OcwWeb/Materials-Science-and-Engineering/</a></li> <li>3) <a href="http://www.tf.uni-kiel.de/matwis/amat/def_en/">http://www.tf.uni-kiel.de/matwis/amat/def_en/</a></li> <li>4) <a href="http://hyperphysics.phy-astr.gsu.edu/hbase/hframe.html">http://hyperphysics.phy-astr.gsu.edu/hbase/hframe.html</a></li> </ol>
<p><b>Suggested /Additional Readings</b></p> <ol style="list-style-type: none"> <li>1) Elementary Crystallography by Martin J. Buerger, John Wiley &amp; Sons</li> <li>2) Practical Stereology by John C. Russ and Robert T. Dehoff, Plenum Press (2nd Edition, 2000), New York</li> <li>3) Metals Handbook (8th Edition), Vol.8: Metallography, Structures and Phase Diagrams, ASM, 1073</li> </ol>