



**ÇANKAYA UNIVERSITY**  
**MSE 225- Introduction to Materials Science**  
**(Section 01&02)**  
**(2013-2014 Fall)**



**Tentative Course Outline**

<b>Week</b>	<b>Topics covered</b>	<b>(7<sup>th</sup> Ed.)</b>
<b>1</b> (23-27 Sept)	Definition and classification of materials	Chapters 1, 13, 15, 16
<b>2</b> (30 Sept-04 Oct)	Atomic structure, periodic table, molecular structure, bonding	Chapter 2
<b>3</b> (07-11 Oct)	Structure of Crystalline Solids	Chapter 3
<b>4</b> (14-18 Oct)	Religious Holiday	
<b>5</b> (21-25 Oct)	Imperfections in Solids	Chapter 4
<b>6</b> (28Oct-01Nov)	No lecture on 29 <sup>th</sup> October (Republic Day) Diffusion in Solids	Chapter 5
<b>7</b> (04-08 Nov)	Mechanical Properties of Metals I, (Test methods; Stress-strain curves)	Chapter 6
<b>8</b> (11-15 Nov)	Mechanical Properties of Metals II , (Strength, ductility, toughness, resilience; Dislocations and Strengthening Mech.) / <b>MIDTERM-I</b>	Chapters 6, 7
<b>9</b> (18-22 Nov)	Failure I (Fracture, types of fracture, fracture mechanisms, impact test)	Chapter 8
<b>10</b> (25-29 Nov)	Failure II (Fatigue and creep)	Chapter 8
<b>11</b> (02-06 Dec)	Phase Diagrams I (basics)	Chapter 9
<b>12</b> (09-13 Dec)	Phase Diagrams II (Iron-carbon)	Chapter 9
<b>13</b> (16-20 Dec)	Thermal Processing of Metals / <b>MIDTERM-II</b>	Chapter 10
<b>14</b> (23-27 Dec)	Corrosion of Metals	Chapter 17
<b>15</b> (30 Dec-3Jan)	Overview	