

<b>SEMESTER</b> <i>Third</i>	<b>DEPARTMENT</b> <i>General Engineering</i>	<b>COURSE TITLE</b> <i>Material Science</i>
<b>COURSE CODE</b> <i>EG307</i>	<b>HOURS</b> 3 <b>UNITS</b> 3	<b>COURSE SPECIFICATIONS</b> <i>Theoretical Contents</i>
<p><b>1. Classification of Materials:</b></p> <ul style="list-style-type: none"> <li>➤ Atomic theories.</li> <li>➤ Energy bands.</li> <li>➤ Periodic table.</li> <li>➤ Chemical bands.</li> <li>➤ Structure of materials.</li> </ul>		
<p><b>2. Dielectric Properties of Material:</b></p> <ul style="list-style-type: none"> <li>➤ Dielectric susceptibility.</li> <li>➤ Temperature and frequency dependence of dielectric constant.</li> <li>➤ Ferro-electric material.</li> </ul>		
<p><b>3. Magnetic Properties of Materials:</b></p> <ul style="list-style-type: none"> <li>➤ Magnetization.</li> <li>➤ Classification according to magnetic properties.</li> <li>➤ Ferro-magnetism.</li> <li>➤ Hard and soft magnets.</li> <li>➤ Permanent magnets.</li> <li>➤ Ferrites.</li> </ul>		
<p><b>4. Conductivity:</b></p> <ul style="list-style-type: none"> <li>➤ Theory of specific resistance.</li> <li>➤ Temperature dependence.</li> <li>➤ Super conductivity.</li> </ul>		
<p><b>5. Semiconductors and Devices:</b></p> <ul style="list-style-type: none"> <li>➤ Pn junction .</li> <li>➤ BJT.</li> <li>➤ Mosft.</li> </ul>		

- Pin diode.
- Shottcky diode energy band.

***References:***