

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

- Pin diode.
- Shottcky diode energy band.

References: