

## AMMR-24 ELECTRONIC MATERIALS FOR INDUSTRY

1. Dielectric Materials-dielectric constant and polarization, polarization mechanism,
2. linear and non-line dielectric, pyro-piezo, and ferroelectric properties, application magnetization dia magnctism paramagnelism,
3. Polypararnagnetism, ferro, antiferro, and ferri magnetism.
4. Soft and hard magnet materials, permanent magnet and transformers. Carrier statistics in semiconductor,
5. Semiconductor materials purification, and crystals growth, epitaxy, CVD and, MBE,
6. Physical vapor deposition (sputtering, evaporation, etc),
7. P-N junction, Schottky & MaS device structures, doping by implantaik and diffusion, ion
8. Implantation, patterning, etchlithography, empirical rule,
9. Alloy design, very large sea integration (VLSI).

### Reference Books:

1. Elements of Materials Science and Engineering, L. H. Van Vlack (Addison-Wesley)
2. Materials Science and Engineering: An Introduction, W. D. Callister, (WILEY)
3. The Science and Engineering of Materials, Donald R. Askeland (Chapman & Hall)