EMAT 351 Materials Processing & Performance

3 Cr. (Hrs.:3 Lec.)

Bonding and structure in metallic materials are reviewed. Basic deformation and phase transformation mechanisms important for materials engineering are discussed, with an emphasis on relating properties to structure and processing. Topics include strength, toughness, ductility, dislocations, phase diagrams, alloying, phase transformations, strengthening mechanisms, heat treatment, and solidification in metal systems including the processing and properties of plain carbon steels. **Prerequisite:** EMAT 251 or EGEN 251 or Consent. (1st)