NANO 3310 - Introduction to Materials Science

NANO 3310 Introduction to Materials Science (3 semester credit hours) This course provides an intensive overview of materials science and engineering focusing on how structure/property/processing relationships are developed and used for different types of materials. The course illustrates roles of materials in modern technology by case studies of advances in new materials and process. Topics include atomic structure, crystalline solids, defects, failure mechanisms, phase diagrams and transformations, metal alloys, ceramics, polymers as well as their mechanical, thermal, electrical, magnetic and optical properties. Prerequisites: CHEM 1311 and (MATH 2415 or MATH 2419) and PHYS 2326 or instructor consent required. (Same as ECS 3310 and MECH 3360) (3-0) Y