MSEN 5370 - Ceramics and Metals

**MSEN 5370** Ceramics and Metals (3 semester credit hours) Emphasis on structure-property relationships: chemical bonding, crystal structures, crystal chemistry, electrical properties, thermal behavior, defect chemistry. Chemical and physical properties of metals and alloys. Topics include: powder preparation, sol-gel synthesis, densification, toughening mechanisms, crystal structure, thermodynamics, phase diagrams, phase transformations, oxidation, mechanical, electrical and magnetic properties. Prerequisites: **MSEN 5300** and **MSEN 5310** or equivalent. (3-0) R