



Credits Thesis: 6 credits

Admission to Candidacy

Passing of the Final Oral Examination

**Advisory Committee:**

During the first semester of his/her study in the MSMSE program, the student and his/her M



CHEM 0513	<b>ADVANCED INORGANIC CHEMISTRY.</b> 1st or 2nd Semester. Lect. 3, 3 credits. Chemistry of elements other than carbon. Topics emphasize atomic and molecular structure, ionic and covalent bonding theories, symmetry, acid base theories, transition metal compounds and chemistry of selected representative elements. <b>Prerequisite: CHEM 0401 and CHEM 237.</b>
CHEM 0524	<b>POLYMER CHEMISTRY.</b> 1st or 2nd Semester. Lect. 2; Lab 6, 4 credits. A survey course on polymeric materials. Areas covered are the synthesis and reactions of polymers, thermodynamics and kinetics of polymerization, the physical characterization of polymers and the fabrication, testing and uses of polymers. These topics are integrated into both the lecture and the laboratory. <b>Prerequisites</b>

MSEG 0604	<b>MATERIALS PROPERTIES AND CHARACTERIZATION.</b> CR. 3. A multidisciplinary course offering a practical hands-on experience with various analytical equipment and analysis of advanced composite materials including nanomaterials. Focus on sample preparation, principles and applications of various microscopy, thermal and mechanical methods. Covered topics include AFM, SEM, TEM, EDX, X-ray, TGA, DSC, DMA, TMA, tensile, compression and flexure tests.
MSEG 0611	<b>MOLECULAR MODELING OF POLYMERS AND NANOCOMPOSITES.</b> Cr. 3. To introduce students to the fundamentals of molecular modeling and to put that knowledge to use in a

