Course Information
Course Title: Chemistry of Our World: Materials
Course Abbreviation and Number: CHM 1060/CHM 1060L
Course Credit Hours: 4
General Education Course__X__ Writing Intensive Course_____ Service Learning Course_____
Laboratory Course__X__ Ohio TAG (Transfer Assurance Guide) Course ____
Ohio Transfer Module Course__X__ Others (specify)_____

Course Registration
Prerequisites: None
Corequisites: CHM 1060L
Restrictions: None

Student Learning Outcomes
Chemical principles applied to the examination of familiar materials such as metals, nonmetals, household chemicals, and polymers. Attention is given to the risk/benefit implications of these materials, complexities of these materials as used by consumers, the impact of these materials on the environment, and methods of applying modern techniques to improvement of commonly used chemical materials. Understand the experimental basis of scientific inquiry. Appreciate the importance of model building for understanding the natural world. Understand the theoretical, practical, creative and cultural dimensions of scientific inquiry. Discuss some of the fundamental theories underlying modern science. Understand the dynamic interaction between society and the scientific enterprise. Recognize appropriate ethical uses of knowledge in the natural sciences.

CHM 1060 is a Natural Science course for the Core Element program. Learning outcomes are:

- Understand the nature of scientific inquiry
- Critically apply knowledge of scientific theory and methods of inquiry to evaluate information from a variety of sources
- Distinguish between science and technology and recognize their roles in society
- Demonstrate an awareness of theoretical, practical, creative and cultural dimensions of scientific inquiry
- Discuss fundamental theories underlying modern science

Suggested Course Materials (required and recommended)
Texts:

**Suggested Method of Instruction**
Lecture, Discussion

**Suggested Evaluation and Policy**
Lecture: Four-five exams and 4 – 5 homework assignments
Comprehensive final exam
Laboratory: 12 lab reports

**Suggested Grading Policy**
Grading scale: A-F

**Suggested Assignments and Course Outline**
Week 1 - 3: Relevance of Chemistry, Acids and Bases
Homework 1 covering acids and bases
Week 4 - 6: Oxidation and Reduction
Homework 2 covering oxidation and reduction reactions
Week 7 - 9: Metals and Minerals
Homework 3 covering the properties and uses of metals and minerals
Week 10 - 12: Household Chemicals
Homework 4 covering household chemicals
Week 13 - 14: Polymers
Homework 5 covering polymers

**LABORATORY SCHEDULE**
**Weekly Experiments**
Weeks 2-3 Acid-Base Reactions
Week 4 Titrimetric Determination of an Antacid Tablet
Weeks 5-6 Batteries
Week 7 Metals and Corrosion
Week 8 Alum from Beer Cans
Week 9 Building Materials
Week 10 Dyes and Dyeing
Weeks 11 Soaps and Surfactants
Weeks 12-13 Synthetic Polymers

**Other Information**
None.