

UPDATED for FALL 2009

CHEM 231 / 232 ORGANIC CHEMISTRY I and II

Textbook, Supplies and General Information

Instructor Information

Laura J. Anna	320 Caputo Hall
Associate Professor	(717) 871-2040
Department of Chemistry	laura.anna@millersville.edu

Required Materials for CHEM 231 / 232

- *Lecture Text: Organic Chemistry, 5th Ed., W.H. Brown and C.S. Foote, Thomson Publishing. ISBN 978-0-495-38857-9*
- *Laboratory Technique Text: Making the Connections: A How-To Guide for Organic Chemistry Lab Techniques, A.B. Padias, 1st Ed., Hayden-McNeil Publishing. ISBN 978-0-738-01985-7*

Supplies:

- Molecular Model Kit (available from Chemistry Department, \$15.00)
- Laboratory goggles (MU bookstore, ~\$5) or safety glasses (Chemistry Department \$3)
- Permanently bound, composition style laboratory notebook, quad or line ruled
- Combination lock for laboratory drawer (Chemistry Department, \$5.00)
- Miscellaneous laboratory supplies: Scotch tape, stapler, sharpie marker, pencil

Optional Materials for CHEM 231 / 232

- *Student Study Guide and Problems Book, B. Iverson and S. Iverson, Thomson Publishing. ISBN 978-0-495-38870-8*
- *American Chemical Society Organic Chemistry Study Guide (available from instructor \$21)*

Course Description: CHEM 231-Organic Chemistry I

Prerequisite: Grade of C- or better in CHEM 112

Organic structural theory including conformation and configurations of molecules and functional group classification of organic compounds—alkanes, alkenes, alcohols, ethers, alkyl halides, aldehydes and ketones, aromatic and organometallic compounds. Major emphasis is on relationships among molecular structure, chemical reactivity, and physical properties. Thorough integration of reaction mechanisms as elucidated using principles of kinetics, thermodynamics, stereochemistry and spectroscopy.

Introduction to the instrumentation of organic chemistry: proton and carbon-13 nmr, infrared, and mass spectrometry. 3 hours lecture/3 hours lab.

Course Description: CHEM 232-Organic Chemistry II

Prerequisite: Grade of C- or better in CHEM 231

The structure-property-reactivity-mechanism-synthesis approach from CHEM 231 continues with application to and emphasis on unsaturated compounds - dienes, and aromatic compounds. Also carbonyl compounds including carboxylic acids and derivatives; along with amines, phenols, and complex compounds with multiple functionality. Includes an introduction to natural and synthetic polymers and biomolecules, including fats, oils, amino acids, and carbohydrates. Thorough integration of structural relationships to spectral properties using IR, C-13 and H-1 NMR, and mass spectral instrumentation and derived data. 3 hours lecture/3 hours lab.