Chemistry 402 & 5402 **Syllabus**

Professor: Dr. Trent Selby **Office**: Hederman 407
Phone: (601) 925-7665
E-mail: selby@mc.edu (please put "Adv. organic class" in the subject line).
Office Hours: Mon., Tues., Wed. & Thurs. 10:00-11:30 (or by appointment)

Class: Lecture and Lab (required attendance)

Textbook: (required) "Perspectives on Structure and Mechanism in Organic Chemistry" By Felix A. Carroll (Brooks Cole; 1st edition)

Other Reference Books: 1. "Advanced Organic Chemistry; Part A: Structure and Mechanisms" by Francis A. Carey and Richard J. Sundberg.
2. "Mechanism and Theory in Organic Chemistry" by Thomas H. Lowry and Kathleen Richardson

Students with disabilities: *This department believes in reasonably accommodating individuals with disabilities and complies with university policy established under Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (1990) to provide for equal access and opportunity. Please communicate with your professor as to your specific needs so appropriate arrangements can be made through the department.*

Attendance Policy: Regular attendance at all lectures is expected.

Lab Reports: Lab reports will be worth 40 points each.

Exams:
Exam 1 (150 pts):
Exam 2 (150 pts):
Comprehensive Final (200 pts):

Grading: (note: a grading curve may be used, at my discretion, to achieve a fair distribution of grades)

(as percentages of all points) 89.5-100% (A); 79.5-89.4% (B); 69.5-79.4% (C); 59.5-69.4% (D); below 59.4% (F).

Tenative list of topics to be covered in this course:

⇒Resonance
⇒MO Theory
⇒Stereochemistry & Conformational Analysis
⇒Pericyclic Reactions
⇒Art of writing Organic Mechanisms
⇒Free Radicals & Carbenes
⇒Overview of Organic Photochemistry
⇒Thermochemistry
⇒Kinetics
⇒Linear Free Energy Relationships
⇒H/D Isotope Effects
⇒Acid/Base Chemistry
⇒Solvent Effects
⇒NMR Spectroscopy

Academic Integrity: Mississippi College students are expected to be completely honest in all aspects of the course. Dishonesty, such as cheating or plagiarism, will not be tolerated and will be dealt with according to the stated policies of the university. For details, see the current *Mississippi College Undergraduate Catalog*, the *Tomahawk*, and Policy 2.19.

Course description: This course includes a study of selected topics in physical organic chemistry.

Rationale: This course will provide a fundamental understanding of organic chemical compounds and principles and how they are involved in everyday life as well as in advanced chemical studies, biochemistry, and medicine on a molecular level.

Methods of Instruction: Classes will consist primarily of lecture, problem solving and laboratory experiments. The text will be followed as far as the general topics, but current material will be added from other sources.