CHEM 2010 ORGANIC CHEMISTRY I

Instructor Information:
Name: 
Office phone: 
Office location: 
Office hours: 
E-mail address: 

I. Course Description
A study of the chemical and physical properties of hydrocarbons and their derivatives. Topics include (1) structure and bonding of organic compounds, (2) acid/base chemistry, (3) properties of alkanes, alkenes, alkynes, alkyl halides, and alcohols and (4) an introduction to spectroscopy. Reaction mechanisms are emphasized. The laboratory component stresses skills in techniques such as purification and characterization of organic compounds. Some synthesis is performed.

Credit: 4 credits, 3 class hours, 3 lab hours
Prerequisite: CHEM 1120

II. Course Outcomes
Upon successful completion of this course, the students will:
• Understand the principles of atomic structure, molecular geometry, hybrid orbitals, resonance, polarity, and conformation stability.
• Identify important functional groups, apply IUPAC guidelines for naming organic molecules, describe stereochemistry of organic molecules, and categorize isomeric compounds as constitutional isomers, enantiomers or diastereomers.
• Interpret reactions using energy diagrams and mechanisms and describe reaction kinetic and thermodynamic properties.
• Describe the reactivity of organic compounds by their ability to act as a Lewis acid/base or electrophile/nucleophile; recognize the three fundamental reactions of organic chemistry (substitution, elimination, and addition) and predict the chemical behavior of hydrocarbons, alkyl halides, and alcohols.
• Characterize organic molecules using physical properties, Mass Spectrometry and Infrared Spectroscopy.

Course Topics
• Atomic Structure
• Hybridization & bonding
• Resonance
• Polarity
• Isomers
• Conformations
• Drawing organic molecules.
• Acid Strength
• Chemistry of Lewis acids/bases
• Functional groups
• Physical properties of organic molecules
• Nomenclature
• Energy diagrams
• Kinetics
- Thermodynamics
- Stereochemistry
- Alkanes
- Alkyl halides
- Alkenes
- Alkynes
- Alcohols
- Nucleophilic substitution reactions
- Elimination reactions
- Addition reactions
- Oxidation/Reduction reactions
- Reaction mechanisms
- Characterization of organic compounds by physical properties.
- Purification of organic compounds by recrystallization, separation, distillation, chromatography.
- Synthesis of organic compounds.
- Mass spectrometry
- Infrared spectroscopy

III. Required Materials
- Laboratory Notebook (bound, composition-style)

IV. Course Policies

**Attendance Policy:**
Each Instructor will provide information regarding his/her attendance policy. Failure to attend class will result in a final course grade of “FA” or “FN” (see explanation below) depending on the individual instructor’s course policy.

FA= failure, attendance-related (unofficial withdrawal) Last recorded date of attendance required
FN= failure, never attended class (unofficial withdrawal)

**Assessment and Grading:** ***Subject to change at the instructor’s discretion***

**Grading scale:**

A: 90 – 100%
B: 80 – 89%
C: 70 – 79%
D: 60 – 69%
F: 0 – 59%
FA (see below)
FN (see below)
Per TBR policy, a student who does not officially drop or withdraw from a course, but receives a failing grade, will receive an “FA” if the last day of attendance was earlier than two-thirds into the part-of-term. That date equates to the last day to withdraw from the course.

An FN is awarded to students who never attended class.

**Grading Components**

Laboratory*: 20%

Homework: 15%

Class quiz: 10%

Tests(+Final exam): 55%

**Laboratory:**
Laboratory schedule and manual will be available in d2l course shell.

Laboratory grades are assessed by quality of laboratory notebooks and sometimes worksheets.

Students are expected to follow the safety rules. Failure to do so will result in docking of points on lab exercises. Laboratory sessions begin with a pre-lab. If student miss the pre-lab, then student will not be allowed to perform the exercise and will earn a “0” for that lab.

**Safety issues**
The instructor will go over new regulations regarding safety in lab classes. Student must turn in a signed copy of the regulations, and will have a copy to keep. “Food and drink of any type is not permitted in the lab classrooms. Any student found with food or drink in the lab room will be asked to immediately leave the room and will receive a grade of “0” for that day’s lab activity.”

**D2L Brightspace/NSOnline and myNSCC email**
It is the student’s responsibility to check D2L and MyNSCC email on a regular basis. These are the official communication channels between the college and students. Students are responsible for the information communicated through those channels. D2L contains specific course information and MyNSCC contains information important for other purposes.

**ADA Compliance Statement**
Nashville State complies with the Americans with Disabilities Act. If you wish to request any special accommodations for any courses in which you are enrolled, contact the Access Center at 615.353.3741 or 615.353.3721.

**Classroom Misconduct**
Nashville State Community College has a zero tolerance policy for disruptive conduct in the classroom. Students whose behavior disrupts the classroom will be subject to disciplinary sanctions. The Nashville State Student Code of Conduct policy is available at http://www.nscc.edu/content/resources/Student_Code_of_Conduct_Policy.pdf.

Please be aware that children are not allowed in class or unattended on campus.

**Academic Misconduct**
Any form of academic dishonesty, cheating, plagiarizing, or other academic misconduct is prohibited. Students are responsible for understanding and aiding by the Academic Misconduct Policy in the Nashville State Student Code of Conduct that can be found at http://www.nscc.edu/content/resources/Student_Code_of_Conduct_Policy.pdf.

In addition to other possible disciplinary sanctions that may be imposed through regular college procedures as a result of academic dishonesty the instructor has the authority to assign an “F” or a “Zero” for the exercise, paper, or examination or to assign an “F” for the course. Students may appeal through the appropriate college grade appeal procedures.

**Academic Early Warning System**
Nashville State Community College has implemented an Early Warning System to notify students via e-mail about academic problems such as poor classroom attendance, poor performance on assignments/tests, poor communication skills, late/missing assignments, and/or lack of classroom participation. *Please note that Early Warning Alerts do not affect a student’s academic standing.*

**RAVE Emergency Alert System**
Emergency events can happen at any time and Nashville State Community College wants to be able notify students if and when they occur. For this reason, all students have been enrolled in the free RAVE alert system. If you have not already done so, please log in at https://getrave.com/login/nscc to confirm and update your contact information and notification preferences. It is critical that your information be correct so that you will receive any emergency notifications. Your RAVE Username is your NSCC email address. If you’ve never received an email from RAVE with your password, or if you need to reset your password, select “Forgot your password?” and a new password will be emailed to you. Should the RAVE system indicate “user not found”, select Register and create your own RAVE account.

**Inclement Weather Policy**
Nashville State will use the RAVE alert system to send a text message to students, staff, and faculty about adjusted hours of operation and/or closings at individual campuses. All students should check the Nashville State web site home page at www.nscc.edu for announcements on campus closures, which may vary from campus to campus. Campus closures will also be announced on local television stations.
When classes are cancelled, an online assignment will be posted in NS Online. Check NS Online for a message from your instructor regarding your online assignment requirements.
Students should use their own best judgment in determining whether to report to campus during inclement weather when classes are not cancelled.

**Class Cancellation Policy**
If the class is cancelled, the instructor will notify all students by posting in the NSOnline/D2L course, e-mailing through NSOnline/D2L, and/or by posting a sign on the classroom door. In the event of class cancellation, students must access NSOnline/D2L to complete classwork and the assignment that will be posted in the course D2L site.

***Please Note***
This syllabus is meant simply as a guide and overview of the course, the topics, the objectives, the general assessments, and some standard college policies. Some items are subject to change or revision at the instructor’s discretion. Each instructor will further clarify their criteria for grading, classroom procedures, attendance, exams and dates, etc.