WALTERS STATE COMMUNITY COLLEGE

COURSE SYLLABUS

COURSE: Organic Chemistry II - CHEM 2020
SEMESTER: Fall 2014, Spring 2015, Summer 2015
INSTRUCTOR: Dr. Matthew D. Smith, Office NCSI 119, Phone 585-6881
E-Mail – Matthew.Smith@ws.edu

Course Contact
Dr. Jeff T. Horner, Dean of Natural Science, Office NSCI 125,
Supervisor: Phone: 423-585-6954, E-Mail: Jeff.Horner@ws.edu
Office Hours: Instructor’s Office Hours are posted on his office door.
FAX: 423-318-2762
Division Secretary: 423-585-6865

REQUIRED TEXTBOOK:
Students are encouraged to purchase the hybrid text with OWLv2 and 48 month eBook access ISBN: 9781305517929

CATALOG DESCRIPTION
Chemistry 2020 is an introductory sequence course in organic chemistry which considers the occurrences, structure, properties, and uses of the more important classes of organic compounds. Concepts such as mechanisms of reactions and the relationships between structure and properties are developed. Topics covered are: conjugated, unsaturated systems, aromatic compounds, electrophilic aromatic substitution, oxidation and reduction reactions, organometallic compounds, aldehydes, and ketones, carboxylic acids and their derivatives, amines, and synthesis and reactions of β-dicarbonyl compounds.
(Prerequisite(s): A letter grade of “C” or better in CHEM 2010; Pre/Corequisite: CHEM 2021) - 3 Semester credits.

COURSE OUTCOMES:
Upon completion of this course students will be able to demonstrate mastery by applying and relating the following course objectives to the course topics below:
1. Nomenclature and Structure of Organic Molecules - apply the IUPAC rules to generate the correct name or structure; describe the stereochemical relationship between different structures, etc.
2. Reactions - correctly identify the major product obtained or reagents necessary to carry out specific reactions; reason the stereochemical outcomes of a reaction; perform multi-step syntheses; etc.
3. Principles of Structure and Reactivity - rationalize the criteria governing stability of molecules and intermediates; apply principles of acidity and basicity; analyze and classify structures in terms of resonance, aromaticity, conjugation, functional groups, etc.; rationalize substituent effects from a mechanistic/product standpoint; etc.
4. Chemical Spectra – interpret 1H, 13C NMR and explain resonances, chemical shift, splitting, integration; Identify functional groups from IR; explain an observed spectra in relation to chemical structure; determine chemical structure from a provided spectra; etc.
COURSE TOPICS
1. Dienes, Conjugated Systems, and Pericyclic Reactions
2. Benzene and the concept of Aromaticity
3. Reactions of Benzene and Its Derivatives
4. Spectroscopic Methods of Structure Determination (IR, NMR, Mass Spec)
5. Introduction to Organometallic Chemistry
6. Aldehydes and Ketones
7. Carboxylic Acids
8. Functional Derivatives of Carboxylic Acids
9. Enolate Anions and Enamines
10. Amines
11. Selected Topics (Biochemistry, polymers, etc)

A complete list of student learning objectives by topic can be found at library.ws.edu/mOrganic

COURSE COMPETENCIES:
1. Prepare students for advanced studies in chemistry or work in related disciplines.
2. Develop an understanding of the benefits derived from the use of organic chemistry, chemical technology, and chemical engineering to enhance the quality of life.
3. Develop critical thinking and skills that allow students to assimilate large amounts of information required for success in graduate school courses.

How to Succeed at Organic Chemistry – Dr. Smith’s Philosophy
Organic chemistry encompasses a wide array of fields including medicine and pharmaceuticals, polymers, oil refining, the makeup you may (or may not) have put on, the chemicals in the coffee that allow me to function every morning, and almost any other science related profession. It is for that reason that you are sitting in this class. Due to the intense nature of the course, there are still valuable skills that can be gained from how this course MUST be approached that will aid you in the future even if you are headed down a road that will not require organic chemistry on a routine basis.

First, there is A LOT of information in this class. Therefore, constant and continuous studying is essential. I highly recommend flash cards to learn the multitude of reactions, mechanisms, functional groups, etc. that will be presented in this course. You will not be able to wait until the last minute to study the material. Even though this may have worked in previous courses, I can almost certainly guarantee that it will not work in this class. The main reason this approach will not work is because the exams will require you to apply what is in your notes rather than merely give the material back to me. As a starting point, I would recommend tripling the amount of study time that you put forth in general chemistry.

So how should you study? It all starts with an awesome set of notes. As stated above, it is much more than trying to memorize your notes. You need to understand and memorize the GENERAL principles and schematics presented in your notes. Then ask yourself if you can explain those principles using the examples that we discussed in class. Next, it is essential that you try multiple problems that test these skills. One of the worst things that you can do is to work the same two or three problems over and over and over. This will lull you into the false sense that you understand the underlying concepts, but chances are you have just memorized the steps to those few problems. Always check yourself with a new and slightly different problem when you think you fully understand the topic.

Second, students always want to know what is important for them to know from the material in
order to best prepare for the upcoming exam. This is a trick question because everything continually builds on itself. I know, I know...every professor tells you that. Believe me, this time you are being told the honest truth. The one aspect of this that will be the most difficult is the multitude of reactions. As we move through the course, synthesis (making one molecule from another through a series of reactions) will be a common theme. Therefore, reactions from previous chapters must be recalled (cue the flash cards) and applied. This continually comprehensive approach to learning will be essential in many graduate fields of study where a complete and thorough understanding of ALL related material is required.

Lastly, if you dread this class from the get-go, it WILL be a miserable experience. Push all of the negative that you have heard about organic chemistry to the side and give it an honest attempt. It is only impossible if you make it that way. I have an open-door office policy. If you are having trouble please come by and see me. It is amazing what can be worked out over a cup of coffee and a little chemistry elbow grease.

METHODS OF INSTRUCTION:
1. Lectures
2. Class participation and discussion
3. Advanced preparation outside the classroom

Class Overview:
For each unit you will be provided with a set of electronic notes. These notes contain pertinent concepts, examples, terms, definitions, etc. as well as interactive practice problems, tutorial videos, and interactive websites. You will be responsible for reviewing this material prior to class so that you are able to come to class with a basic knowledge of the material. In order to make sure this is carried out quizzes will be given outside of class through GoClass. During lecture we will work practice and critical thinking problems in order to reinforce the material you studied and must know. Material will be made available through eLearn and course website library.ws.edu/mOrganic. Extra practice will be available through OWLv2 for students that obtain the code with the hybrid text.

As a part of lecture exams, each student will be required to answer a verbal response question. The response will be recorded, either using a video conferencing platform (more details to follow) or by regular video recording. You should focus on being concise and to-the-point while confidently discussing the material. Your response will be recorded and made available to you. For the last exam instead of answering a question you will critique your other responses in order to ascertain what your strengths and weaknesses of interviews are. Why? Well, I anticipate many of you are getting ready for medical or pharmacy school interviews. Those committees want short, concise, to the point answers. They also want to see that you can talk competently about tough subject matter. This is a preparation tool for that.

The Student Can Expect from the teacher:
1. Email response within 24 hours during the normal work week. Holidays and vacations excluded.
2. Email during the weekend will be answered on Monday.
3. Exams to be graded and returned in a timely manner.
4. Enthusiasm for the subject and encouragement to help you when you need it.
5. A fair grading system, with feedback.
6. Learning that ties concepts into the real world around us.
7. Respect for you as a learner.
EVALUATION:

1. Exams 65%
2. Pre-Lecture Quizzes 5%
3. Comprehensive Final 30%

Grades will be determined by the student’s percentile rank as follows:

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<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
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<tr>
<td>A = 90-100</td>
<td>A</td>
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<tr>
<td>B = 80-89</td>
<td>B</td>
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<td>C = 70-79</td>
<td>C</td>
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<tr>
<td>D = 60-69</td>
<td>D</td>
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<tr>
<td>F = 0-59</td>
<td>F</td>
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Exams and Grading:
Chemistry exams will emphasize factual knowledge and assess the achievement of the Learning Outcomes. Short answer, essay questions, diagrams and multiple choice questions may be used. Exams focus on what happens in class as supplemented and amplified by the readings.

Academic Dishonesty Policy:
Any student who violates the college’s academic integrity policy will automatically receive a “0” for that assignment or exam.

Extra Credit:
Each professor has the option to offer the opportunity to earn **40** additional points through the semester. Examples include, but are not limited to, bonus questions on exams, in class quizzes, attending a scientific event, etc. The instructor’s policy will be explained in detail on the first day of class. In no instance will credit be provided for any activity not related to the scope of the course. The aim of the class is to get a solid understanding of chemistry so that grades reflect our abilities to communicate the material and not a supplementary assignment or task. All students, especially those that feel they are struggling with the material, are strongly encouraged to use office hours, send emails, make appointments for extra help, etc. throughout the semester.

Missed Exam Policy:
Students who are absent on the day of an exam must provide a documentable excuse before a make up exam will be given. The missed exam must be made up before the next lecture exam.

New Technologies:
Throughout the semester various technologies (apps, videos, electronic, step-by-step practice solutions) will be uploaded to eLearn or made aware to you during lecture. Your input concerning these tools may be collected in order to make improvements.
Course Ground Rules

All students attending Walters State Community College, regardless of the time, location, or format of the class, must abide by the rules and regulations outlined in the current Walters State Catalog/Student Handbook and the current Walters State Timetable of Classes. The Catalog/Student Handbook and the Timetable of Classes are online at: http://ws.edu

Students must attend the first day of on-ground class or contact the instructor prior to the first class. Failure to do this may result in being dropped from the class. Excessive absences may substantially lower the course grade.

Students enrolled in web courses must follow the course attendance policy defined for online attendance during the first week of class and throughout the term. Failure to do this may result in being dropped from the class during week one OR may result in the accrual of absences which may negatively impact the student’s grade in the course.

Plagiarism, cheating, and other forms of academic dishonesty are prohibited. The minimum penalty for cheating is a “0” (zero) on the examination or assignment. Academic dishonesty may result in an “F” for the course. Additional information can be found in the WSCC Catalog/Student Handbook at: http://ws.edu.

Students with disabilities must register with Student Support Services each semester in the Student Services Building, Room U134 (phone 423-585-6892) if they need any special facilities, services, or consideration.

Students in need of tutoring assistance are encouraged to contact the Office of Student Tutoring located as follows:

- Morristown Campus - Student Services Building Room L107 – (423) 585-6920
- Greeneville Campus – Room 420 - (423) 798-7982
- Sevierville Campus - Marshall-Maples Hall Room 118 – (865) 286-2787
- Claiborne Campus – Room 123A (423) 851-4761

Specific tutoring assistance in mathematics and writing is available in-person and online as follows:

- Morristown Campus – English Learning Lab – HUM 120 – (423) 585-6970
  o https://www.ws.edu/academics/humanities/writing-lab
- Morristown Campus – Mathematics Lab – MBSS 222 - (423) 585-6872
  o http://ws.edu/academics/mathematics/learning-lab

Students who need assistance with computing and technology issues should contact the IET Helpdesk by phone at Morristown: 423-318-2742 Greeneville: 423-798-8186 or Sevierville: 865-286-2789 or on-line access at: http://helpdesk.ws.edu/.

Students receiving any type of financial aid or scholarship should contact the Financial Aid Office before making any changes to their schedule. Schedule changes without prior approval may result in loss of award for the current term and future terms.

Students who have not paid fees on time and/or are not correctly registered for this class and whose names do not appear on official class rolls generated by the Walters State student information system (StarNET) will not be allowed to remain in class or receive credit for this course.

Electronic devices must not disrupt the instructional process or college-sponsored academic activity. Use of electronic devices is prohibited unless use of the device is relevant to the activity and use is sanctioned by the faculty member in charge. Electronic devices that are not relevant to the activity or sanctioned by the faculty member in charge should be set so that they will not produce an audible sound during classroom instruction or other college-sponsored academic activity.

For information related to the cancellation of classes due to inclement weather, please check the college’s Web site at www.ws.edu or call the college’s student information line, 1-800-225-4770,
Dual Enrollment students attending on a high school campus should refer to the high school inclement weather cancellations.

In the event of a pandemic or other college-declared critical event that impacts the college’s ability to proceed with academic course activities as planned, the college reserves the right to alter this course plan. In the event of a pandemic or other event, please refer to the college’s home web page, www.ws.edu or call InfoConnect, (423) 581-1233 for further information.

Regular class attendance is a student’s obligation for any course regardless of format. (See the Walters State Catalog/Student Handbook) If a student misses class, it is his or her responsibility to contact the instructor regarding missed assignments and/or activities and to be prepared for the next class assignment.

All forms of student Financial Aid may be jeopardized or lost due to the lack of Satisfactory Academic Progress in one or multiple courses. Lack of Satisfactory Academic Progress may negatively impact a student’s degree/certificate completion pace and further jeopardize Financial Aid eligibility.

Students are required to supply a #2 pencil for each lecture exam.

The wearing of hats and caps in class is not allowed! Students will be asked to remove their hats and caps.

STAY AWAKE IN CLASS. Your mere presence in class is not sufficient—you must be able to actively process the information presented! Sleeping in class is disruptive in two ways: the student who is snoozing is not interested and not participating in the classroom discussion; secondly, sleeping in class is considered to be disrespectful to the teacher and other students. The penalty for sleeping in class may range from the student being requested to leave the class with a following conference with the instructor, to notification of the Vice-President of Academic Affairs (in the cases of habitual sleepers). If you have a medical condition that prevents you from staying awake in class, please discuss this with the instructor.

CLASSROOM COURTESY. Being in a college environment it is expected that classroom courtesy will be given to your instructor and classmates in limiting unnecessary talking and communication during class lecture or student presentation. An Academic Misconduct Form will be filed for those who have difficulty following this policy and disrupt class.

Safety:
1. There will be NO food, drink or tobacco products in the laboratory.
2. NO opened-toe shoes can be worn during lab. You will not be allowed to stay in the laboratory if the lab exercise uses any sort of glassware or chemicals.
3. NO purses, bags or coats on top of the student tables.
4. NO visitors in the laboratory without prior approval of the instructor.

Your Right to Know:
Tennessee Law requires that you are provided notice that some of the laboratory exercises involve contact with chemicals which have been identified with potential health hazards. These chemicals include, but are not limited to: acetone, chloroform, formalin, acids and bases. While every effort has been made to make the materials as safe as possible these
chemicals are toxic and you must be responsible for their safe handling. If you feel you may be at a higher risk than normal, if pregnant for example, we recommend you consult your physician.

**Alternative Teaching Plan**
In the event of a pandemic or other college declared critical event, the lead faculty member for this course will use eLearn to communicate with the students. If the lead faculty member is affected by this event, another member from the teaching team will assume instruction for the course. The course will continue utilizing an online format of instruction and testing.

**ATTENTION:** The Natural Science faculty members are concerned with proper academic advising of students in **ALL** Pre-Professional programs. It is our explicit desire to help you with any advising problems you may encounter.

The last day to drop a course or withdraw from the college-full term for Fall 2014 term is November 5, 2014.

The last day to drop a course or withdraw from the college-full term for Spring 2015 term is April 2, 2015.