THE UNIVERSITY OF TEXAS RIO GRANDE VALLEY
DEPARTMENT OF CHEMISTRY

CHEM 2125 / Organic Chemistry II Laboratory / Course Syllabus
*Course syllabus may be subject to change

Instructor: Ms. Vanessa L. Garcia, M.S.  
E-mail address: vanessa.garcia@utrgv.edu
Office: Old Book Bee Bldg. 132  
Office Hours: MW 10:00am-12:00pm TR 11:30-12:30pm 
or by appointment (send email)

Course Description: Laboratory activities reinforce advanced principles of organic chemistry, including the structure, properties, and reactivity of aliphatic and aromatic organic molecules; and properties and behavior of organic compounds and their derivatives. Emphasis is placed on organic synthesis and mechanisms. Includes study of covalent and ionic bonding, nomenclature, stereochemistry, structure and reactivity, reaction mechanisms, functional groups, and synthesis of simple molecules.

Prerequisites: CHEM 2123 with a minimum grade of “D”. Credit and/or concurrent enrollment in CHEM 2325.

REQUIRED SUPPLIES
1. Laboratory coat (long sleeve)
2. Safety eye-glasses
3. Scientific calculator

Learning Outcomes for CHEM 2125
Upon successful completion of this course, students will:
1. Perform chemical experiments, analysis procedures, and waste disposal in a safe and responsible manner.
2. Utilize scientific tools such as glassware and analytical instruments to collect and analyze data.
3. Identify and utilize appropriate separation techniques such as distillation, extraction, and chromatography to purify organic compounds.
4. Record experimental work completely and accurately in laboratory notebooks, and communicate experimental results clearly in written reports.
5. Correlate molecular structure with physical and chemical properties of aliphatic and aromatic organic molecules.
6. Predict the mechanism and outcome of aliphatic and aromatic substitution and elimination reactions, given the conditions and starting materials.
7. Predict the chirality of reaction products based on enantiomeric and diastereomeric relationships.
8. Describe reaction mechanisms in terms of energetics, reaction kinetics, and thermodynamics.
9. Use spectroscopic techniques to characterize organic molecules and subgroups.

Spring 2017 ACADEMIC CALENDAR
Jan 16  MLK Holiday and Day of Service
Jan 17  First day of class for full semester
Jan 30  Last day to add a class for spring 2017 semester
Mar 13 – 18 Spring Break, no classes
Apr 13  Last day to drop (DR grade) a class or withdraw (grade of W)
Apr 14 – 15 Easter holiday, no classes
May 3  Last day of classes for full semester
May 4  Study Day, no classes
May 5 - 11 Final Exams
**BLACKBOARD & EMAIL**
I will make extensive use of Blackboard. All of the experiments will be posted ahead of time under Course Materials and will be available for students to access. Make sure to periodically check your Blackboard and UTRGV e-mail accounts for announcements and posting from the instructor. Email communication with the instructor will only occur via your UTRGV email address.

**LAB ATTENDANCE**
Attendance to the lab is strictly enforced. Students are required to do all the laboratory experiments at the scheduled time. After 10 minutes of the beginning of the laboratory, students will not be allowed in the lab, resulting in a “0” for that particular lab. No make-up labs are given unless you can show a verifiable, and a legitimate reason for missing. If a verifiable, and legitimate reason is presented and accepted, you must fill out the **MAKE-UP LAB FORM** and return to Ms. Garcia the next class.

**LAB SAFETY**
Students are required to wear the proper laboratory personal protective equipment (PPE - long pants that cover the entire legs, closed shoes, laboratory coat, safety eye-glasses, and restriction of long hair) for each lab at all times. Students will not be allowed to perform the experiment without the proper PPE resulting in a “0” for that particular lab. Do not begin laboratory exercises unless Ms. Garcia is present. Follow the Experimental Procedures – do not perform unauthorized experiments! Absolutely no horseplay, food, drinks, or chewing gum allowed.

- No jeggings, workout pants, or synthetic bottoms are allowed!
- Your entire legs must be covered. Therefore, if any part of your skin on your legs is exposed, you will be dismissed from the laboratory.
- Do not “weigh” chemicals directly on balance surfaces; use weighing paper or beakers.
- Dispose of solid wastes in appropriately labeled containers – NOT in wastes basket!
- Dispose of liquid, organic wastes in appropriately labeled containers – NOT down the sink!
- Dispose of broken glassware in the designated box – NOT in wastes basket!
- Add reactive chemicals only to clean & dry beakers, flasks, graduated cylinders, etc.
- Use flames (Bunsen burners) only when authorized; most organic solvents are highly flammable!
- Do not leave experiments unattended.
- Put chemicals and equipment back to where you found them.
- Do not pour chemicals back into reagent containers.
- Condenser water should flow through equipment at a moderate rate only.
- Clean up your and your partner’s work area before leaving.
- Use common sense – ask if you do not know!
- Before you perform an experiment, I will spend ≈10 min. going over the theory, techniques, and safety aspects associated with each experiment.
- You will work with a partner throughout the semester.

**LAB REPORTS**
Here is the basic outline you should incorporate for typing your lab report:

- Double spaced
- 12 pt font
- Times New Roman font
- Black ink only
- **NO LATE REPORTS WILL BE ACCEPTED** (see Calendar below)!
- Helpful Tip: Produce a report so understandable, easy to follow, and as detailed as possible that if you were to lose your lab manual/results your report was the only way you/someone else can reproduce the same results.
I. a. Title of Experiment
   
   b. Date performed (MM/DD/YY)
   
   c. Your name/partner’s name

II. Purpose of experiment (one or two coherent sentences)

Reagent data (table form)

III. Experimental Procedure
     (no plagiarism; past tense paragraph form)

IV. Experimental Results (tables with written descriptions)

V. Conclusion (min. coherent 10 sentences)

VI. Answers to assigned questions

EXAMS
There will be 2 major exams given during the semester. **SEE THE CALENDAR BELOW for the exam dates.** ABSOLUTELY NO CELL PHONES OR OTHER ELECTRONICS will be permitted during the exams!

EXAM MAKE-UP POLICY
Make up exams, including exams need to be taken early, will only be given due to a major medical illness requiring immediate treatment, there is a death of an immediate family member, you must participate in a required university activity, you are observing a religious holy day, or you are currently serving in the military. Documentation is required for all of these cases. In the cases of your illness or a family member’s death, documentation is required when you return to campus. In the case of a required university activity, a religious holy day, or military service, documentation is required at least one week prior to the activity. In case a make-up exam is given, it will be at the discretion of the instructor and at a time convenient to her schedule. Please note, however, that a makeup exam might be different than the regularly scheduled exam.

QUESTIONS ON GRADED REPORTS/EXAMS
If a student believes that a question on an reports/exam has been miss graded, the student should bring it up to the instructor’s attention during office hours (NOT DURING CLASS TIME) without delay. The student MUST support his/her claim by working out the problem in advance and present a written solution to it. If the question entails theory, then the student must provide the textbook page or place in the class notes were his or her claim is supported. Please make sure to take care of any problems before the next exam or assignment. I will NOT discuss any grading concerns after this period.

GRADING POLICY
Here is a list of these sources with their point values and grades:

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<tr>
<th>Pt. Source</th>
<th>No.</th>
<th>Pts.</th>
<th>Totals</th>
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<tr>
<td>Experiments</td>
<td>9</td>
<td>70</td>
<td>630</td>
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<td>Exams</td>
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<td>100</td>
<td>200</td>
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<td>†Evaluation</td>
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†Points assigned at end of semester; criteria include punctuality, safe practices and lab stewardship.

‡You are guaranteed **at least** these grades if your scores fall within these ranges
CALENDAR

<table>
<thead>
<tr>
<th>Date</th>
<th>Exp. No</th>
<th>Experiment</th>
<th>Due</th>
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<tr>
<td>Jan. 27</td>
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<td>Orientation, Syllabus, Safety</td>
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<td>Feb. 3</td>
<td>1</td>
<td>Synthesis of Aspirin</td>
<td>Safety Agreement</td>
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<td>Feb. 10</td>
<td>2</td>
<td>Reaction of Iodoethane with Naphthol “Williamson Ether Synthesis”</td>
<td>Exp. #1 Report</td>
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<td>Feb. 17</td>
<td>3&lt;sup&gt;©&lt;/sup&gt;</td>
<td>Nuclear Magnetic Resonance Spectroscopy</td>
<td>Exp. #2 Report</td>
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<td>Feb. 24</td>
<td>4</td>
<td>Isolation of Clove Oil</td>
<td>Exp. #3 Worksheets</td>
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<td>Mar. 3</td>
<td>5</td>
<td>Directive Effects in the Bromination of Vanillin</td>
<td>Exp. #4 Report</td>
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<td>Mar. 10</td>
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<td>Exam 1 (Exp. 1-5)</td>
<td>Exp. #5 Report</td>
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<td>Mar. 13-17</td>
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<td>SPRING BREAK (No classes)</td>
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<td>Mar. 24</td>
<td>6&lt;sup&gt;©&lt;/sup&gt;</td>
<td>Aldehydes and Ketones</td>
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<td>Mar. 31</td>
<td>7&lt;sup&gt;©&lt;/sup&gt;</td>
<td>Carboxylic Acids and Esters</td>
<td>Exp. #6 Worksheets</td>
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<td>Apr. 7</td>
<td>8</td>
<td>Preparation of Synthetic Banana Oil</td>
<td>Exp. #7 Worksheets</td>
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<td>Apr. 14</td>
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<td>EASTER HOLIDAY (No classes)</td>
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<td>Apr. 21</td>
<td>9</td>
<td>Preparation of Aldol Condensation Products</td>
<td>Exp. #8 Report</td>
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<td>Apr. 28</td>
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<td>Exam 2 (Exp. 6-9)</td>
<td>Exp. #9 Report</td>
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<sup>©</sup> There is no lab reports for these experiments; there will be worksheets to complete instead.

STUDENTS’ CODE OF CONDUCT

Students are expected to carry themselves and to behave as adults and to show respect for fellow students, the professor and the university setting. A high degree of decorum is expected from the students while in this class. No class room misconduct such as talking in class, using cell phones or any other way that disturbs the lecture delivery will be tolerated. Student(s) behaving in such matter will be asked to leave the class room. If the problem persists, the student(s) will be permanently barred from class.

STUDENTS WITH DISABILITIES

If you have a documented disability (physical, psychological, learning, or other disability which affects your academic performance) and would like to receive academic accommodations, please inform your instructor and contact Student Accessibility Services to schedule an appointment to initiate services. It is recommended that you schedule an appointment with Student Accessibility Services before classes start. However, accommodations can be provided at any time. Brownsville Campus: Student Accessibility Services is located in Cortez Hall Room 129 and can be contacted by phone at (956) 882-7374 (Voice) or via email at ability@utrgv.edu. Edinburg Campus: Student Accessibility Services is located in 108 University Center and can be contacted by phone at (956) 665-7005 (Voice), (956) 665-3840 (Fax), or via email at ability@utrgv.edu.

MANDATORY COURSE EVALUATION PERIOD

Students are required to complete an ONLINE evaluation of this course, accessed through your UTRGV account (https://my.utrgv.edu/home); you will be contacted through email with further instructions. Students who complete their evaluations will have priority access to their grades.

Online evaluations will be available:
Feb 15 – Feb 21 for Module 1 courses
Apr 12 – Apr 18 for Module 2 courses
Apr 12 – May 3 for full spring semester courses

ATTENDANCE

Students are expected to attend all scheduled classes and may be dropped from the course for excessive absences. UTRGV’s attendance policy excuses students from attending class if they are participating in
officially sponsored university activities, such as athletics; for observance of religious holy days; or for military service. Students should contact the instructor in advance of the excused absence and arrange to make up missed work or examinations.

**SCHOLASTIC INTEGRITY**
As members of a community dedicated to Honesty, Integrity and Respect, students are reminded that those who engage in scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and expulsion from the University. Scholastic dishonesty includes but is not limited to: cheating, plagiarism, and collusion; submission for credit of any work or materials that are attributable in whole or in part to another person; taking an examination for another person; any act designed to give unfair advantage to a student; or the attempt to commit such acts. Since scholastic dishonesty harms the individual, all students and the integrity of the University, policies on scholastic dishonesty will be strictly enforced (Board of Regents Rules and Regulations and UTRGV Academic Integrity Guidelines). All scholastic dishonesty incidents will be reported to the Dean of Students.

**SEXUAL HARASSMENT, DISCRIMINATION, and VIOLENCE**
In accordance with UT System regulations, your instructor is a “responsible employee” for reporting purposes under Title IX regulations and so must report any instance, occurring during a student’s time in college, of sexual assault, stalking, dating violence, domestic violence, or sexual harassment about which she/he becomes aware during this course through writing, discussion, or personal disclosure. More information can be found at www.utrgv.edu/equity, including confidential resources available on campus. The faculty and staff of UTRGV actively strive to provide a learning, working, and living environment that promotes personal integrity, civility, and mutual respect in an environment free from sexual misconduct and discrimination.

**COURSE DROPS**
According to UTRGV policy, students may drop any class without penalty earning a grade of DR until the official drop date. Following that date, students must be assigned a letter grade and can no longer drop the class. Students considering dropping the class should be aware of the “3-peat rule” and the “6-drop” rule so they can recognize how dropped classes may affect their academic success. The 6-drop rule refers to Texas law that dictates that undergraduate students may not drop more than six courses during their undergraduate career. Courses dropped at other Texas public higher education institutions will count toward the six-course drop limit. The 3-peat rule refers to additional fees charged to students who take the same class for the third time.
THE UNIVERSITY OF TEXAS RIO GRANDE VALLEY  
DEPARTMENT OF CHEMISTRY  

CHEM 2125 MAKE-UP LAB FORM  
_________________________________________ Spring 2017  
*MUST MAKE-UP LAB DURING WEEK EXPERIMENT IS BEING CONDUCTED  

1. Notify Ms. Garcia (via e-mail) of your absence 24-hours before the missed class. Ms. Garcia will determine whether your absence is excusable.  
2. If excusable, contact the other lab instructor for permission to attend his/her class.  
3. Fill out this form with the other lab instructor’s signature.  
4. Turn in this form and the complete lab report to Ms. Garcia the next class to get credit for the missed lab.  

Student Name: ___________________________  
ID: __ __ __ __ __ __  
Date Absent: M T W Th F __ __ - __ __ - 2017  

Attended Lab: 2125. __  
Attended Lab Date: M T W Th F __ __ - __ __ - 2017  

Check Missed Experiment:  

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- 1 Synthesis of Aspirin  
- 2 Reaction of Iodoethane with Naphthol “Williamson Ether Synthesis”  
- 3 Nuclear Magnetic Resonance Spectroscopy  
- 4 Isolation of Clove Oil  
- 5 Directive Effects in the Bromination of Vanillin  
- 6 Aldehydes and Ketones  
- 7 Carboxylic Acids and Esters  
- 8 Preparation of Synthetic Banana Oil  
- 9 Preparation of Aldol Condensation Products  

Instructor Signature: ___________________________  
Date: ___________________