SYLLABUS

Organic Chemistry I - 19396 - CHEM 2323 - 06  Instructor: Debasish Bandyopadhyay
Fall 2018  E-mail: debasish.bandyopadhyay@utrgv.edu
TR 5:55 pm – 7:10 pm (ESNE 2.104)  Office location & hours: SCNE 3.320 & MTR=7:30-8:30 pm
OR by mutual appointment through email (debasish.bandyopadhyay@utrgv.edu) at SCNE 3.492 (3th floor, research
wing).

Textbook and/or Resource Material: Organic Chemistry by David Klein (3rd Edition) or L. G. Wade (8th Edition). Other Text Books/Reference Books/Web links will also be followed. PPTs will be provided through Blackboard, as required.

Course Description and Prerequisites: The prerequisite is CHEM 1312.

<table>
<thead>
<tr>
<th>Module</th>
<th>Duration (Weeks)</th>
<th>Topics (to be discussed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>13</td>
<td>Use of Spectroscopic Techniques in Structure Elucidation of Organic Small Molecules: Introduction to IR &amp; NMR spectroscopy — Symmetrical &amp; Non-symmetrical molecules — Specific examples.</td>
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</tbody>
</table>

Teaching Statement

Teaching is not only my ‘bread and butter’ but also my love and passion. My teaching philosophy includes two major goals. The short-term goal is to prepare students for their next professional level whereas the long-term goal is targeted to all-round development of the students for the advancement of our society. One of my main objectives is to create interest among the students about the subject matter by generating appropriate learning environment, by providing real world examples as well as by adopting challenging and fair policy. I extend my time
to students if they need extra help. I provide the entire study materials by power-points, and by using the white board extensively. My homework prepares students not only for my tests but for their competitive exams also. I encourage students to search databases to realize the progress in various aspects of chemistry. I use pertinent examples to illustrate that chemistry is not only a single discipline, but also an indispensable part of the human life and society. To teach, I present the aspects of chemistry missing in their undergraduate training. I try to acquaint students with a physical description of chemistry. Whenever applicable, I try to present the intuitive non-mathematical description that accompanies the mathematical one. The goal is to reinforce this association so that it might be useful when the student re-encounters the problem later in their career. It is my firm belief that physical concepts cannot be taught or learned merely through lectures and/or reading. Learning must be examined and practiced in non-verbal ways. For this reason, I use problem sets extensively in all of my teaching. I find that by frequent assignment of problems the students have thoroughly studied the concepts that I’ve presented in my lectures. I like to provide useful inter-disciplinary examples as much as possible from the nature (to create learning environment) to draw out the underlying principle/law (to reach the goal) by the students. I believe this makes learning very interesting and motivates the students.

Understanding ‘how people learn’ (HPL) is one of the significant aspects of my teaching. This is linked to their “knowledge” background and maturity. The key is to relate to the audience by starting from what they know and building upon it. Providing real life examples makes it very easy. Equally important to self-discovery is having the opportunity to study things that are meaningful and relevant to one’s life and interest. I believe each and every student has the potential to bring something unique and special to the world. I help students to develop their potential by believing in them as capable individuals. I assist students in discovering who they are, so they can express their own opinions and nurture their own ideas. I have a vision of a world where people learn to respect, accept, and embrace the differences between us, as the core of what makes life so fascinating. I believe that each student is a unique individual who needs a secure, caring, and stimulating atmosphere in which to grow and mature emotionally, intellectually, physically, and socially. It is my desire as an educator to help students meet their fullest potential in these areas by providing a learning environment that is safe, supports risk-taking, and invites a sharing of ideas. My aim is to encourage independent thinking and analytical reasoning to augment their problem solving skills, thus encouraging them to not just memorize. I prompt them to question at every stage: “why?...how?” and satisfy their curiosity, instead of assuming the instructor is always right. The idea is to provide hints and “baby steps”, building on what they know, and lead them to the answer by making them think logically. I believe that a teacher should be totally involved with the class, dedicated to his students and be prepared to devote time and energy for them. Love for teaching evokes passion and dedication. The enthusiasm of a motivated teacher rubs off on his/her students, who derives the inspiration and encouragement that actuate the students’ desire to learn. This keeps the students interested and they tend to retain the course material very well. Every module should clearly state a take-home message for the students. I know through experience that whenever my past students approach me for help for another course, I am pleased to realize during the discussions that they have retained most of the important concepts. In addition, I always try to personalize the needs and problems of the students. Having good sense of humor is an added advantage. I believe that the best in a person comes out in a non-stressful situation. At last but not least, I believe that the role of a teacher is that of a leader where the teacher has to show the path, motivate, encourage, and lead by example. Perspiration follows inspiration which means this mission involves hard work, empathy and dedication.

**Learning Objectives/Outcomes for the Course**

- To understand the core basic concepts in Organic Chemistry
- To have deeper understanding of the mechanistic details in Organic Chemistry
- To learn various functional groups and their reactivity
- To understand the acid-base chemistry
- To understand the chemistry of Reactive Intermediates
- To learn various aspects of stereochemistry
- To correlate organic chemistry in day-to-day life
- To learn the art and logic in organic syntheses
- To demonstrate the knowledge of Organic Chemistry in Medicinal Chemistry
Learning Objectives for Core Curriculum Requirements

- Graduates will have both broad knowledge and skills of critical thinking in the chemical sciences.
- Graduates will be prepared to conduct (either as individual or as a team) or participate in research.
- Graduates will demonstrate the ability to communicate chemical knowledge.
- Graduates will achieve knowledge and understanding of different organic functional groups.
- Graduates will be able to name and describe conformational preferences of alkanes, cycloalkanes and alkyl halides.
- Graduates will be able to recognize chiral and achiral compounds and assign stereogenic carbon as $R$ or $S$.
- Graduates will be able to recognize and describe the reaction mechanism for free radical halogenation, nucleophilic substitution ($S_N2$ and $S_N1$), and elimination ($E_1$ and $E_2$) reactions.
- Graduates will be prepared to participate actively in organic chemistry research.
- Graduates will demonstrate the ability to communicate chemical knowledge.
- Graduates will be prepared to enroll themselves for the upper level organic chemistry study (e.g. Organic Chemistry II/ Medicinal Chemistry lecture courses).
- Graduates will be prepared to search for employment (including graduate or professional school).

Grading Policies: The distribution of points are as follows:

Total Points = 600
- Three Unit Tests: $3 \times 100 = 300$ Points
- Comprehensive Final Examination: 200 Points
- Homework/In-Class work/Attendance: 100 points

Three Unit Tests and the Comprehensive Final Examination will be based on the lectures, study materials, Board works, and homework. The type of tests will be determined after consultation with the students in the class room. ALL tests are mandatory to take. THREE take-home exercises will be given through Blackboard before three Unit Tests. The results of Homework/In-Class work/Quizzes Attendance ($25 \times 3 + 15 + 10 = 100$ points) will be added to the score of the FOUR (3 Unit Tests + Comprehensive Final Exam) exams. The final examination will be comprehensive and will also examine the students’ critical thinking skills to propose solutions to problems involving multiple aspects of the course. After the final exam, letter grade will be assigned as follow:

- A $\geq$ 90\% (540 points or more)
- B $\geq$ 80\% (480 points or more)
- C $\geq$ 70\% (420 points or more)
- D $\geq$ 60\% (360 points or more)
- F $<$ 60\% (Less than 360 points)

Homework: Homework problems will be assigned periodically, three times during the semester, seven days before each unit test. Students MUST submit their homework through Blackboard. Direct e-mail to the instructor (debasish.bandyopadhyay@utrgv.edu) will NOT be considered.

Unit Tests Schedule

- Unit Test 1: October 04, 2018 (Thursday)
- Unit Test 2: November 01, 2018 (Thursday)
- Unit Test 3: December 04, 2018 (Tuesday)
These dates are tentative only. Actual test dates may vary and these will be discussed extensively with the students in the classroom. In addition to these tests, there will be discussions on the subject and extra credit will be offered to the students who would give answers of the questions in the classroom, participate in cooperative and group learning method.

**Final Examination: December 13th, 2018 (Thursday, 5:45-7:30 pm)**

**Other Course Information**
Individual student's performance/ question/ more advanced knowledge of the subject can be discussed at the office (ESCNE 3.320) during my office hours (MTR=7:30-8:30 pm) and through mutual appointment by E-mail (debasish.bandyopadhyay@utrgv.edu) at ESCNE 3.492 (3rd floor, research wing). To make an appointment, please check my schedule in Blackboard. You can make an appointment during my Research hours by suggesting three timings that are CONVENIENT to YOU. There must be at least 4 hours gap between each of your proposed three timings, I'll pick one of your three preferred slots and respond to you through email. It is expected that a college student won't be absent after finalizing an appointment. In case there is an emergency please cancel your appointment in advance. All the four examinations are equally important. There will be no make-up exams, except for those officially excused prior to the exam. It is your responsibility to take ALL the examinations. Otherwise, your grade will be affected seriously. In case of serious illness or a legitimate emergency, a student may be excused from one Unit Test. However, I should be appropriately informed beforehand. A note from your physician or an accident report (police) will be counted. You may get zero if I do not receive appropriate correspondences.

**Calendar of Activities**
The UTRGV academic calendar can be found at [https://my.utrgv.edu/home](https://my.utrgv.edu/home) at the bottom of the screen, prior to login. Some important dates for fall 2018 include:

<table>
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<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>August 27</td>
<td>First day of classes</td>
</tr>
<tr>
<td>August 30</td>
<td>Last day to add a course or register for fall 2018</td>
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<tr>
<td>September 3</td>
<td>Labor Day – NO classes</td>
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<tr>
<td>November 14</td>
<td>Last day to drop a course; will count toward the 6-drop rule</td>
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<tr>
<td>November 22 - 24</td>
<td>Thanksgiving Holiday – NO classes</td>
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<tr>
<td>December 6</td>
<td>Study Day – NO classes</td>
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<tr>
<td>December 7 - 13</td>
<td>Final Exams</td>
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<tr>
<td>December 14 – 15</td>
<td>Commencement Exercises</td>
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**UTRGV Policy Statements**
The UTRGV disability accommodation, mandatory course evaluation statement and sexual harassment statement are required on all syllabi. Additional policy statements are optional, such as those covering attendance, academic integrity, and course drop policies.

**STUDENTS WITH DISABILITIES:**
Students with a documented disability (physical, psychological, learning, or other disability which affects academic performance) who would like to receive academic accommodations should contact Student Accessibility Services (SAS) as soon as possible to schedule an appointment to initiate services. Accommodations can be arranged through SAS at any time, but are not retroactive. Students who suffer a broken bone, severe injury or undergo surgery during the semester are eligible for temporary services.

**Pregnancy, Pregnancy-related, and Parenting Accommodations**
Title IX of the Education Amendments of 1972 prohibits sex discrimination, which includes discrimination based on pregnancy, marital status, or parental status. Students seeking accommodations related to pregnancy, pregnancy-related condition, or parenting (reasonably immediate postpartum period) are encouraged to contact Student Accessibility Services for additional information and to request accommodations.
Student Accessibility Services:
**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 ([http://my.utrgv.edu](http://my.utrgv.edu)); you will be contacted through email with further instructions. Online evaluations will be available from **Nov. 15 – Dec. 05** for the regular fall semester. Students who complete their evaluations will have priority access to their grades.

**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.

**STUDENT WILL NOT BE ALLOWED TO ATTEND THE CLASS IF S/HE ARRIVES MORE THAN 15 MINUTES LATE.**

**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 (including self-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](http://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 that is 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.

**STUDENT SERVICES:**
Students who demonstrate financial need have a variety of options when it comes to paying for college costs, such as scholarships, grants, loans and work-study. Students should visit the Students Services Center (U Central) for additional information. U Central is located in BMAIN 1.100 (Brownsville) or ESSBL 1.145 (Edinburg) or can be reached by email (ucentral@utrgv.edu) or telephone: (888) 882-4026. In addition to financial aid, U Central can assist students with registration and admissions.
Students seeking academic help in their studies can use university resources in addition to an instructor’s office hours. University Resources include the Learning Center, Writing Center, Advising Center and Career Center. The centers provide services such as tutoring, writing help, critical thinking, study skills, degree planning, and student employment. Locations are:

- Learning center: BSTUN 2.10 (Brownsville) or ELCTR 100 (Edinburg)
- Writing center: BLIBR 3.206 (Brownsville) or ESTAC 3.119 (Edinburg)
- Advising center: BMAIN 1.400 (Brownsville) or ESWKH 101 (Edinburg)
- Career center: BCRTZ 129 (Brownsville) or ESSBL 2.101 (Edinburg)