

# CHEM 4346: Advanced Organic Chemistry

## Spring 2018 Syllabus

The University of Texas at Tyler

Department of Chemistry

MW 11:15-12:10 AM (RBS 2015)

### Instructor Contact Information and Office Hours

#### Instructor Contact Information

Dr. Neil Gray  
Office: RBS 3003  
Phone: 566-7206  
Email: [ngray@mail.uttyl.edu](mailto:ngray@mail.uttyl.edu)  
Research Lab: RBS 3034  
*Best method of contact is email.*

#### Course Website

Note: Additional information, including the tentative course schedule can be found at the course Canvas Site. Check often as many

#### Student Learning Outcomes

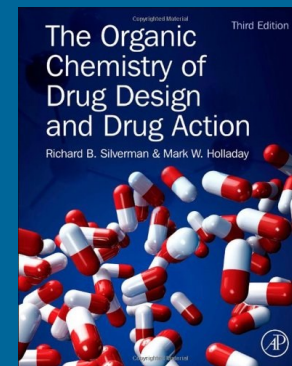
- Understand and describe the theoretical basis for the structure-activity relationships for drug candidates.
- Understand and describe advanced stereochemistry and its importance in organic synthesis.
- Understand and describe drug discovery with and without a lead.
- Understand and describe drug-receptor interactions.
- Be able to design syntheses for simple drugs candidates.
- Understand and describe the organic chemical basis of selected diseases and their treatments.
- Understand and describe advanced molecular recognition and self-assembly.
- Understand and describe the synthesis, action, and destruction of selected chemical warfare agents, insecticides, and herbicides.
- Understand and describe the importance of organic chemistry in the development of sustainable world-wide energy supply.

#### Office Hours

M-F 10:00-11:00

#### Course Description

The study of advanced topics in organic and bioorganic chemistry related to drug design and drug action. This course focuses on topics which illustrate the importance of organic chemistry in biochemical processes, total synthesis, drug discovery and design, molecular recognition, medicine, stereochemistry, and macromolecular chemistry. Prerequisite: **CHEM 3344/3145 or consent of instructor.**



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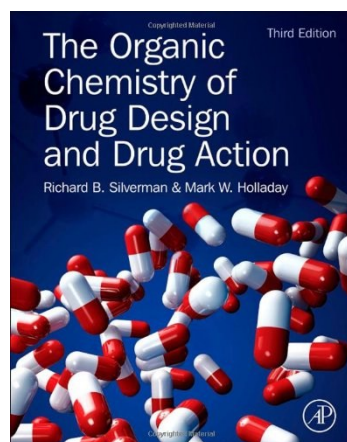
## The Chemical Literature and Homework



As this course endeavors to keep up with current progress in advanced organic chemistry, the literature is an important component. I will often assign reading from recent and historical literature sources. Some of these papers I will provide for you, while others I will require you to obtain. Be aware that these reading assignments are every bit as important as those from materials that I will give you in class. I will sometimes make literature assignments that will count as homework grades to encourage you to independently pursue one

of the most important but often neglected duties of a “good” chemist, to read the current literature.

I will regularly assign work to be completed outside of the normal class time. All assignments will be posted on the course website, so check there regularly. Such assignments will include readings from the text and literature, class notes, and handouts, in addition to working problems using the concepts learned. It is very important that you complete such assignments in a timely manner. The worst thing you could possibly do is get behind.



## Textbook

### The Organic Chemistry of Drug Design and Drug Action

Publisher: Academic Press; 3rd edition (2014)

Language: English

ISBN-10: 0126437327

ISBN-13: 978-0126437324

## Course Notebook

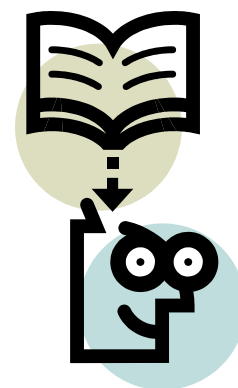
I suggest that you keep a binder that contains all of the reading assignments that provide for you. I will also provide you with copies of all the PowerPoint files, problems sets, solutions, etc. Keeping all of these items orga-

nized in a single notebook and in the order presented, may be helpful. I will also try to give you most of the material electronically, so you can keep it on your computer or i-pad if preferred.

## A Few Words Regarding Reading and Problem Assignments

It is important that you read each assignment without delay. The best way to develop a proper understanding of advanced organic is to solve problems using concepts discussed in the text and/or in lecture. The material is organized such that examples and problems follow the discussion of a concept or series of similar concepts. I would suggest that you sit down to read with pencil and paper handy and work through each example and problem as you reach them. If you get stumped on a particular problem review the relevant text material and lecture notes and then try it again. Feel free to see me for help during my office hours, or during the help sessions. Work hard on the problem before surrendering to the temptation to look in the study guide. Simply scanning the answers provided in the study guide will not be enough to earn a passing grade. The best thing you could possibly do to improve your grade is to dili-

gently and consistently work and rework problems. Although some memorization is necessary in learning organic chemistry, it is much more important to *understand* the concepts involved and how to apply them. Portions of exams will involve problems that will be difficult to solve without an adequate understanding of the concepts involved. I would suggest that you keep a notebook to work your problems in. Bring this notebook when you come to ask for help. Such a notebook will help keep your work organized and easily accessible when preparing for exams. To encourage you to read with pencil in hand, every problem embedded in the text of each chapter is automatically included in the problem assignment for that chapter. Problems assigned from the end of each chapter, and any other problems will be distributed in lecture. All assigned problems are fair game on exams.



## Canvas

The course website will be hosted on UT Tyler's Canvas Site. This site will contain a significant amount of information that will help you in this course, in addition to being one method through which you can check your current grade. Access to blackboard is required for this

course. This access is free and easy to initialize. To access this site, go to <https://uttyler.instructure.com/courses/7638> and follow the instructions to login to your account. Enrolment in the course site is now automatic. It is critical that you make sure that you can access this site as soon as possible.

**Blackboard will be a critical part of the course, so register soon and visit the site often.**

### **Students Rights and Responsibilities**

To know and understand the policies that affect your rights and responsibilities as a student at UT Tyler, please follow this link: <http://www.uttyler.edu/wellness/StudentRightsandResponsibilities.html>

### **Census Date**

Deadline for all registrations, schedule changes, and section changes is 1/29/2018.

### **State-Mandated Course Drop Policy**

Texas law prohibits a student who began college for the first time in Fall 2007 or thereafter from dropping more than six courses during their entire undergraduate career. This includes courses dropped at another 2-year or 4-year Texas public college or university. For purposes of this rule, a dropped course is any course that is dropped after the 12th day of class (See Schedule of Classes for the specific date).

Exceptions to the 6-drop rule may be found in the catalog. Petitions for exemptions must be submitted to the Registrar's Office and must be accompanied by documentation of the extenuating circumstance. Please contact the Registrar's Office if you have any questions.

### **Student Absence due to Religious Observance**

Students who anticipate being absent from class due to a religious observance are requested to inform the instructor of such absences by the second class meeting of the semester.

### **Student Absence for University-Sponsored Events and Activities**

If you intend to be absent for a university-sponsored event or activity, you (or the event sponsor) must notify the instructor at least two weeks prior to the date of the planned absence. At that time the instructor will set a date and time when make-up assignments will be completed.

### **Emergency Exits and Evacuation:**

Everyone is required to exit the building when a fire alarm goes off. Follow your instructor's directions regarding the appropriate exit. If you require assistance during an evacuation, inform your instructor in the first week of class. Do Not re-enter the building unless given permission by University Police, Fire department, or Fire Prevention Services.



## Disability Statement

In accordance with federal law, a student requesting accommodation must provide documentation of his/her disability to the Disability Support Services counselor. If you have a disability, in-

cluding a learning disability, for which you request an accommodation, please contact Ida MacDonald in the Disability Support Services office in UC 282, or call (903) 566-7079.

## Social Security and FERPA Statement

It is the policy of The University of Texas at Tyler to protect the confidential nature of social security numbers. The University has changed its computer programming so that all students

have an identification number. The electronic transmission of grades (e.g., via e-mail) risks violation of the Family Educational Rights and Privacy Act; grades will not be transmitted electronically.

## Grade Replacement Policy

If you are repeating this course for a grade replacement, you must file an intent to receive grade forgiveness with the registrar by the 12th day of class. Failure to do so will result in both the original and repeated

grade being used to calculate your overall grade point average. Undergraduates will receive grade forgiveness (grade replacement) for only three course repeats; graduates, for two course repeats during his/her career at UT Tyler.

## Course Grade

<b>Major Exams (3)</b>	<b>70%</b>
<b>Final Exam</b>	<b>20%</b>
<b>Homework</b>	<b>10%</b>

Homework will be assigned to help you prepare for the exams and will primarily be literature-based. **As such, it is one of your most important study tools.**

## No Tolerance Cheating Policy

Under **NO** circumstances will cheating be tolerated. The minimum penalty for cheating will be a zero on the exam or quiz in ques-

tion. **Maximum penalties, up to university expulsion will be pursued in extreme or repeat cases.**

**It is important to work hard from the very beginning of this course.**



**No, not that kind!**

## Major Examinations

There will be 3 major exams. Each exam is worth 100 points and together account for 70% of your final grade.

No exam scores will be dropped. All exams are comprehensive; however, the material covered

since the previous exam will be *strongly* emphasized.

Exams will cover material from the text, discussed in the lecture, and any other assigned material. You will be responsible for every part of every chapter cov-

ered, whether discussed in class, as assigned reading, or in problem sets. Even material that has not been discussed at length in lecture is subject to examination. Any exceptions will be announced in class.

## Makeup Examinations

Makeup exams will be given for university excused absences only. See the UT Tyler Undergraduate Academic Policies in the catalog for details on excused absences. I will be very strict on this policy and will not allow makeup exams for any reason that is unexcused or not properly requested according to university policy. All makeup exams must be scheduled and tak-

en *prior* to the exam date, except in the case of a documented medical emergency or severe illness.

Missing a second exam will require a special meeting between the student and professor to determine an appropriate action. Such an action may include but is not limited to withdrawal.

## Regrading Policy

Even though I will be very fair and careful in the grading of your exams and quizzes, errors in grading are possible. Questions concerning the grading of an exam or quiz should be submitted to me in writing along with the suspect exam within 2 class days after the

exam was returned to you. Alternatively you can see me during my office hours (or any other time you find me available) with the suspect exam or quiz in hand. All exam scores will be considered final one week after the exam is returned to you.



## Final Examination

A mandatory (no makeup allowed), comprehensive final exam will be given and will account for 20% of your final course grade. According

to the final exam schedule our final will be **Friday, 10:45 am-1:15 pm**

## Attendance and Tardiness

Class attendance is the responsibility of the student. Class participation is a significant measure of performance, and non-attendance may adversely affect a student's grade. When a student's absences become excessive, the instructor may recommend that the student

initiate withdrawal from the course.

It is also important that you show up for class on time. Excessive tardiness will result in loss of a letter grade.

## LAST DAY TO DROP ANY OR ALL CLASSES

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**April 2, 2018**

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Courses may be dropped online through Campus Connect until 4 p.m. on the last day of online (early) registration. After that time, all drops and/or withdrawals must be completed through the Registrar's Office, either in person, by fax or by mail. Faxed or mailed drop/withdrawal requests must include the student's name, student ID number, course(s) to be dropped, date, student's signature, contact phone number and copy of

a photo ID (driver's license, student ID, etc.). Requests should be mailed to UT Tyler Registrar's Office, 3900 University Blvd, Tyler, TX 75799 or faxed to (903)565-5705. Students are advised to meet with their instructor(s) and/or academic advisor prior to dropping any classes. Dropping or withdrawing from classes may affect financial aid eligibility, veteran's benefits, athletic eligibility, or international student status. Students should consult with those departments prior to dropping or withdrawing.

*LAST DAY TO DROP  
ANY OR ALL CLASSES*

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**April 2, 2018**

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