

# Brazosport College

## Syllabus for CHEM 2325 - Organic Chemistry II

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### I. COURSE DESCRIPTION

#### **CHEM 2325 - Organic Chemistry II. CIP 4005045203**

A study of the nomenclature, classification and reactions of aromatic, aliphatic, and arene compounds by means of reaction mechanisms, transition state theory, stereochemistry and elementary infrared and nuclear magnetic resonance spectroscopy. Aromatics, alcohols, ethers, carboxylic acids, aldehydes, ketones, amines, phenols, carbohydrates, aminoacids, lipids, nucleic acids, and polymers. **Credit Hours: 3** (3 lecture, 0 lab)

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Dr. Judy Chu

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Dr. Kirby Lowery

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Gary Hicks

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Jeff Detrick

August 2020

- A. **Prerequisite:** A grade of “C” or better in **CHEM 2323**.  
**Required skill level:** College-level reading, writing and math.

## II. COURSE OBJECTIVES

The course is designed to help the student:

1. To become familiar with the nomenclature of the various major families of aromatics and hydrocarbon derivatives.
2. To understand how chemical bonding and molecular structure in aromatics and hydrocarbon derivatives are related to physical properties and chemical behavior.
3. To gain a basic understanding of spectroscopy as it relates to the structure of organic compounds and of the types of information available from each type of spectrum.
4. To learn the various reaction mechanisms which are characteristic of each of the functional groups in the aromatics and aliphatic derivatives, as well as the structures and conditions which favor one mechanism over another.
5. To understand the application of reaction kinetics and transition state theory to the prediction of the most likely products for a given set of reagents.
6. To gain a background in chemical principles sufficient for success in more advanced courses in chemistry which require a basic understanding of organic chemistry.
7. To acquire basic laboratory skills and carry out quantitative procedures in a laboratory setting.

## III. TEXTBOOK OR COURSE MATERIAL INFORMATION

### A. Textbook

1. Organic Chemistry, Bruice, 8<sup>th</sup> Ed. 2017, Pearson Publisher.  
ISBN: 978-0-13-404228-2 (required)

Required course materials are available at the Brazosport College bookstore, on campus or online at <http://brazosport.edu/bookstore/home.html>. Students are not under any obligation to purchase a textbook from the college bookstore. The same textbook is/may also be available from an independent retailer, including an online retailer.

**For Distance Education Courses include the following:** Contact the Brazosport College Bookstore with a credit card for course materials. Phone: 979.230.3651. Fax: 979.230.3653. Email: [bookstore@brazosport.edu](mailto:bookstore@brazosport.edu). Website: <http://brazosport.edu/bookstore/home.html>.

### B. Course Outline

**This is a sample outline which may vary with individual instructors. It will also vary based on whether the course is a summer course or a fall/spring course. Students should contact their instructor for the outline of the course they are taking.**

<u>WEEK</u>	<u>CHAPTER</u>	<u>TOPIC</u>
1	8	Aromaticity
2	8	Aromaticity
<u>WEEK</u>	<u>CHAPTER</u>	<u>TOPIC</u>
3	19	Benzene Reactions

WEEK	CHAPTER	TOPIC
4	19	Benzene Reactions
5	14	Mass Spec., IR Spec., UV Spec
6	15	NMR Spectroscopy
7	16	Carbonyl Compounds I
8	17	Carbonyl Compounds II
9	Spring Break	
10	18	Carbonyl Compounds III
11	20	Oxidation / Reduction
12	20	Amines and Heterocyclics
13	21	Carbohydrates
14	22	Amino Acids, Peptides
15	24, 25, 26, 27	Natural products
16	Review	
17	Final	

### **Important Semester Dates:**

Last Day to Withdraw from Classes– Check BC Academic Calendar -

<http://catalog.brazosport.edu/index.php>

## **IV. STUDENTS WITH DISABILITIES**

Brazosport College is committed to providing equal education opportunities to every student. BC offers services for individuals with special needs and capabilities including counseling, tutoring, equipment, and software to assist students with special needs. For student to receive any accommodation, documentation must be completed in the Office of Disability Services. Please contact Phil Robertson, Special Populations Counselor at 979-230-3236 for further information.

## **V. TITLE IX STATEMENT**

Brazosport College faculty and staff are committed to supporting students and upholding the College District's non-discrimination policy. Under Title IX and Brazosport College's policy FFDA (Local), discrimination based on sex, gender, sexual orientation, gender identity, and gender expression is prohibited. If you experience an incident of discrimination, we encourage you to report it. While you may talk to a faculty or staff member at BC, please understand that they are "Responsible Employees" and must report what you tell them to college officials. You can also contact the Title IX Coordinators directly by using the contact information below. Additional information is found on the Sexual Misconduct webpage at [www.brazosport.edu/sexualmisconduct](http://www.brazosport.edu/sexualmisconduct)

## **VI. ACADEMIC HONESTY**

Brazosport College assumes that students eligible to perform on the college level are familiar with the ordinary rules governing proper conduct including academic honesty. The principle of academic honesty is that all work presented by you is yours alone. Academic dishonesty including, but not limited to, cheating, plagiarism, and collusion shall be treated appropriately. Please refer to the Brazosport College Student Guide for more information. This is available online at <http://brazosport.edu/students/for-students/student-services/>.

Academic dishonesty violates both the policies of this course and the Student Code of Conduct. In this class, any occurrence of academic dishonesty will be referred to the Dean of Student Services for prompt adjudication. Sanctions may be imposed beyond your grade in this course by the Dean of Student Services.

## **VII. ATTENDANCE AND WITHDRAWAL POLICIES**

Class attendance contributes to your final grade, but you must attend class to successfully complete the course. If you are unable to complete this course, you must complete and submit a withdrawal form with the registrar's office. If the student decides to drop out of the class it is the responsibility of the student to initiate a withdrawal before the withdrawal deadline in order to get a "W" on their transcript. If this is not done the student will receive a grade based on test grades and class grades earned during their attendance and absence (i.e. zeros on all missed materials, exams, skills tests, and final exam).

If you stop participating on-line and do not withdraw, you will receive a performance grade, usually an "F".

## **VIII. COURSE REQUIREMENTS AND GRADING POLICY**

There will be three exams given during regular class time that will last 75 minutes each. The date of the exams will be given as various chapters are completed. There will be a comprehensive (cover the whole semester) final exam given during finals week.

### **A. Grading**

Three Major Exams	
Plus Term Paper	80%
Final exam	<u>20%</u>

Grades are assigned as follows:

Grade	Final Average
A	90-100
B	80-89
C	70-79
D	60-69
F	Below 60

### **B. Make-Up Policy**

There Will Be No Make-Up Exams.

However, if the student anticipates a legitimate absence (as judged by the instructor) for an exam, arrangements can be made to take the exam. This must be done before the next scheduled class after the exam. A missed exam will be counted as a zero toward the final grade.

## **IX. STUDENT CONDUCT STATEMENT**

Students are expected to be aware of and follow the Brazosport College Student Code of Conduct. Students have violated the Code if they “fail to comply with any lawful directions, verbal or written, of any official at BC.” Lawful directions include precautions and requirements taken to prevent the spread of COVID-19 at Brazosport College. Students who do not follow safety requirements, including the wearing of a mask, may be removed from class by their instructor and referred to the Dean of Student Services.

## **X. CAMPUS CLOSURE STATEMENT**

Brazosport College is committed to the health and safety of all students, staff, and faculty and adheres to all federal and state guidelines. The College intends to stay open for the duration of the semester, and provide access to classes and support services on campus in the safest way possible. The College will also comply with lawful orders given by applicable authorities, including the Governor of Texas, up to and including campus closure. It is possible that on campus activities may be moved online and/or postpone if such orders are given.

## **XI. STUDENT RESPONSIBILITIES**

Students are expected to fully participate in this course. The following criteria are intended to assist you in being successful in this course:

1. Understand the syllabus requirements
2. Use appropriate time management skills
3. Communicate with the instructor
4. Complete course work on time, and
5. Utilize online components (such as Desire2Learn) as required.

Students will:

- Attend class
- Show up prepared and on time
- Fully participate in the class
- Not cheat on any exam
- Contact the instructor for help

**Electronic Devices** all electronic communication devices, such as pagers and cellular phones, must be turned off during class and lab. Exceptions will be made only for true emergencies, and you must inform the instructor of the situation before class begins.

## **XII. OTHER STUDENT SERVICES INFORMATION**

Information about the Library is available at <http://brazosport.edu/students/for-students/places-services/library/about-the-library/> or by calling 979-230-3310.

For assistance with online courses, an open computer lab, online and make-up testing, audio/visual services, and study skills, visit Learning Services next to the Library, call 979-230-3253, or visit <http://brazosport.edu/students/for-students/places-services/learning-services/>

For drop-in math tutoring, the writing center, supplemental instruction and other tutoring including e-tutoring, visit the Student Success Center, call 979-230-3527, or visit <http://brazosport.edu/students/for-students/student-success-center/>

To contact the Physical Sciences and Process Technology Department call 979-230-3618.  
The Student Services provides assistance in the following:

Counseling and Advising	979-230-3040
Financial Aid	979-230-3294
Student Life	979-230-3355

To reach the Information Technology Department for computer, email, or other technical assistance call the Helpdesk at 979-230-3266.



Get the information you need – when you need it. Click <http://geni.us/BRAZO> to install **BC Connect** on your mobile device to receive reminders, explore careers, map your educational plan, be in the know about events, find out about scholarships, achieve your goals and much more.