

Houston Community College – Eastside Campus
Course Outline for CHEM 2425 – Organic Chemistry II
Spring 2016, RT (January 19, 2016 to May 15, 2016)
Class Number 95600

Instructor and Course

Name: Professor Heath Giesbrecht
Office Phone: 713-718-7085
Email Address: heath.giesbrecht@hccs.edu
Office: Felix Morales (FM) 210
Office Hours: M/Tu/Th: 7:00 AM – 8:00 AM
Tu/Th: 2:00 PM – 2:30 PM
Instructor Websites: <http://learning.hccs.edu/faculty/heath.giesbrecht>
<http://www.youtube.com/user/theprofessorheath>
Date/Time/Location: Tuesday: 2:30 PM – 5:30 PM (FM 314)
Thursday: 2:30 PM – 5:30 PM (FM 223)

Required Materials:

Textbook: *Organic Chemistry*, McMurry. Brooks/Cole, 9th edition
Lab Manual: Experiments found on home page: <https://eo2.hccs.edu/login/index.php>
Homework: OWL HW website: http://www.owlv2.com/HCC_SP15.html
Scantron Cards: Student will need to purchase 4 Scantron Cards for use on exams
Composition Book: Student will need to purchase a composition notebook to use as lab notebook
Scientific Calculator: Student will need to purchase a basic model calculator (TI-30)
Lab Equipment: Student will need to purchase a lab coat or lab apron (safety goggles provided)
Solutions Manual: *Not required, but recommended*

Online Course Materials:

Course Home Page (Eagle Online 2):

<https://eo2.hccs.edu/login/index.php>

Online Lectures (Chapters 13-24):

https://www.youtube.com/user/theprofessorheath/playlists?shelf_id=15&view=50&sort=dd

Course Description & Course Intent:

Continuation of CHEM 2423. Topics include aromaticity, benzene and EAS reactions, aldehydes, ketones, carboxylic acids and their derivatives, condensation reactions, amines, phenols, and infrared and NMR spectroscopy. Core curriculum course.

Course Prerequisite:

CHEM 2423. Must be placed into college-level reading and be placed into MATH 1314 (or higher) and be placed into college-level writing. *A student taking this class without the proper prerequisite does so at his/her own risk and may be subject to class dismissal through the chemistry department.*

Student Responsibilities, Attendance, and Tardiness Policy:

Students are expected to follow the rules established by the State and the College printed in Annual Schedule of Classes. Students are *solely* responsible for making up materials missed due to their tardiness, early departure, and absence, and are expected to study and sign roll sheets every time in class.

Tentative Class Outline:

<u>Week</u>	<u>Class Type</u>	<u>Date</u>	<u>Schedule</u>
1	Lecture	T, Jan 19	Syllabus, Course Introduction; Safety Training
	Lab	R, Jan 21	Ch. 13: Structure Determination: Nuclear Magnetic Resonance Spectroscopy
2	Lecture	T, Jan 26	Experiment 13: NMR Spectroscopy – Determination of Molecular Structure (Dry Lab)
	Lab	R, Jan 28	Experiment 1: IR-NMR Exercises in Molecular Spectroscopy – Structure Determination (Dry Lab)
3	Lecture	T, Feb 2	Syllabus/Safety Online Quiz (Open All Day) ; Homework Ch. 13 (Due) ; Online Quiz Ch. 13 (Open All Day) ; Ch. 14: Conjugated Dienes and Ultraviolet Spectroscopy
	Lab	R, Feb 4	Experiment 2: Diels-Alder Reaction: Preparation of Endo-norbornene-5,6-<i>cis</i>-carboxylic anhydride
4	Lecture	T, Feb 9	Homework Ch. 12 (Extra Credit) (Due) ; Homework Ch. 14 (Due) ; Online Quiz Ch. 14 (Open All Day) ; SA Quiz 1 (Ch. 13-14) ; Ch. 15: Benzene and Aromaticity
	Lab	R, Feb 11	Bring in Experiment 2 Lab Write Up for Review and Corrections (Dry Lab)
5	Lecture	T, Feb 16	Homework Ch. 15 (Due) ; Online Quiz Ch. 15 (Open All Day) ; Ch. 16: Chemistry of Benzene: Electrophilic Aromatic Substitution
	Lab	R, Feb 18	Experiment 3: Nitration of Aromatic Compounds: Preparation of Methyl-<i>m</i>-nitrobenzoate
6	Lecture	T, Feb 23	Homework Ch. 16 (Due) ; Online Quiz Ch. 16 (Open All Day) ; SA Quiz 2 (Ch. 15-16) ; Ch. 17: Alcohols and Phenols
	Lab	R, Feb 25	Exam 1 (Ch. 13-16)
7	Lecture	T, Mar 1	Homework Ch. 17 (Due) ; Online Quiz Ch. 17 (Open All Day) ; Ch. 18: Ethers and Epoxides; Thiols and Sulfides
	Lab	R, Mar 3	Experiment 4: Properties of Alcohols: Structure, Reactions, and Identification of Alcohols
8	Lecture	T, Mar 8	Ch. 19: Aldehydes and Ketones: Nucleophilic Addition Reactions
	Lab	R, Mar 10	Homework Ch. 18 (Due) ; Online Quiz Ch. 18 (Open All Day) ; SA Quiz 3 (Ch. 17-18) ; Ch. 20: Carboxylic Acids and Nitriles
9	Lecture	T, Mar 15	<i>Spring Break!!!!!!!!!!!! (No School)</i>
	Lab	R, Mar 17	<i>Spring Break!!!!!!!!!!!! (No School)</i>
10	Lecture	T, Mar 22	Ch. 21: Carboxylic Acid Derivatives: Nucleophilic Acyl Substitution Reactions
	Lab	R, Mar 24	Homework Ch. 19 (Due) ; Online Quiz Ch. 19 (Open All Day) ; Experiment 6: Identification of Ketones and Aldehydes
11	Lecture	T, Mar 29	Homework Ch. 20 (Due) ; Online Quiz Ch. 20 (Open All Day) ; SA Quiz 4 (Ch. 19-20) Ch. 22: Carbonyl Alpha-Substitution Reactions (Part 1)
	Lab	H, Mar 31	Exam 2 (Ch. 17-20)
12	Lecture	T, Apr 5	Ch. 22: Carbonyl Alpha-Substitution Reactions (Part 2); Ch. 23: Carbonyl Condensation Reactions (Part 1)
	Lab	H, Apr 7	Homework Ch. 21 (Due) ; Online Quiz Ch. 21 (Open All Day) ; Ch. 23: Carbonyl Condensation Reactions (Part 2)
13	Lecture	T, Apr 12	Homework Ch. 22 (Due) ; Online Quiz Ch. 22 (Open All Day) ; SA Quiz 5 (Ch. 21-22)
	Lab	H, Apr 14	Experiment 7: Aldol Condensation: Synthesis of Dibenzalacetone
14	Lecture	T, Apr 19	Homework Ch. 23 (Due) ; Online Quiz Ch. 23 (Open All Day) ; Ch. 24: Amines and Heterocycles
	Lab	H, Apr 21	Experiment 9: Synthesis of Aspirin – Esterification
15	Lecture	T, Apr 26	Online Quiz Ch. 24 (Open All Day) ; SA Quiz 6 (Ch. 23-24)
	Lab	H, Apr 28	<i>Optional Review Session</i>
16	Lecture	T, May 3	Exam 3 (Ch. 21-24)
	Lab	H, May 5	<i>Optional Review Session</i>
17	Lecture	T, May 10	Final Exam (Comprehensive)

Disclaimer: The instructor reserves the right to change this syllabus as deemed necessary and appropriate.

Important Dates:

JANUARY 2016			
Date	Day	Event	
<input type="checkbox"/> Jan 15	Friday	Spring 2016 Reg 16 WK: Last Day for 100% refund	
<input type="checkbox"/> Jan 15	Friday	Spring 2016 Reg 16: Last Day for Drop/Add/Swap/Registration Ends (in-person)	
<input type="checkbox"/> Jan 18	Monday	Spring 2016 Reg 16 WK Coleman: Offices Closed- Martin Luther King, Jr. Observance	
<input type="checkbox"/> Jan 18	Monday	Spring 2016 Reg 16 WK: Offices Closed- Martin Luther King, Jr. Observance	
<input type="checkbox"/> Jan 18	Monday	Spring 2016 Reg 16 WK: Last Day for Drop/Add/Swap/ Registration Ends (online only)	
<input type="checkbox"/> Jan 19	Tuesday	Spring 2016 Reg 16-Wk Classes Begin	
<input type="checkbox"/> Jan 26	Tuesday	Spring 2016 Reg 16 WK Coleman: Official Day of Record	
FEBRUARY 2016			
Date	Day	Event	
<input type="checkbox"/> Feb 1	Monday	Spring 2016 Reg 16 WK: Official Day of Record	
<input type="checkbox"/> Feb 4	Thursday	Spring 2016 Reg 16 WK: Last Day for 70% refund	
<input type="checkbox"/> Feb 10	Wednesday	Spring 2016 Reg 16 WK: Last Day for 25% refund	
<input type="checkbox"/> Feb 12	Friday	Spring 2016 Reg 16 WK: Priority Deadline for Spring Completion of Degrees or Certificates	
<input type="checkbox"/> Feb 15	Monday	Spring 2016 Reg 16 WK: Office Closed- President's Day	
MARCH 2016			
Date	Day	Event	
<input type="checkbox"/> Mar 14	Monday	Spring 2016 Reg 16 WK: Office Closed- Spring Break	
<input type="checkbox"/> Mar 25	Friday	Spring 2016 Reg 16 WK: Office Closed- Spring Holiday	
APRIL 2016			
Date	Day	Event	
<input type="checkbox"/> Apr 5	Tuesday	Spring 2016 Reg 16 WK: Last day to withdraw	
MAY 2016			
Date	Day	Event	
<input type="checkbox"/> May 15	Sunday	Spring 2016 Reg 16 WK: Semester Ends	

Grading Policy: The overall course grade for all sections will be based on the following point distribution: The method of grade calculation will be *exactly* as shown in the table below.

Assignment	Number	Drops	Grade %
Homework	11	0	5
Online Quizzes	13	0	5
SA Quizzes	6	1	5
Lab*	9	1	20
Exam**	3	0	45
Final	1	0	20

Disclaimer: The instructor reserves the right to change this syllabus as deemed necessary and appropriate.

*Note: The Lab score will be calculated *exactly* as follows:

- Pre-Lab Component: 25%
- Laboratory Write-Up Component: 75%
- **Lab write-ups will be due on the date of the following lab.**

**Note: The Exam score will be calculated *exactly* as follows:

- Multiple Choice Component: 70%
- Short Answer Component: 30%

If a student takes the final exam and is able to attain a better mark than at least one of his/her previous exams, the final exam grade will automatically replace the lowest exam score.

A (90.00% – 100.00%) B (80.00% – 89.99%) C (70.00 – 79.99%) D (60.00% – 69.99%) F (0.00% – 59.99%)

Early Alert Program:

The instructor is participating in the Early Alert Program offered by the Counseling Department. Thus, a weekly or monthly attendance and exam records will be forwarded automatically to the Counseling Department without student's consent.

Academic Honesty Policy: There will be zero tolerance for academic dishonesty. Any student who is caught cheating will receive a grade of zero for that exam/quiz/lab assignment with no exceptions and may be administratively withdrawn from the class. The student will be reported to the College for discipline action.

Dropped Assignments: During the course of the semester, you will have the opportunity to drop some assignments: one dropped short answer quiz and one dropped lab. These drops are allowed because unfortunately there will be times that you will be unable to attend class for personal reasons. Therefore, if you can't attend class, and you have a drop to use, you will not be penalized for missing that assignment. If you have completed all the assignments in the section, the assignments dropped will be the ones with the lowest grades.

Replaced Assignments: During the course of the semester, you will have the opportunity to replace one exam score: the lowest exam score will be replaced with the final exam grade provided the final exam is greater than the lowest exam score. If the final exam grade is lower than any of the individual exam grades, the lowest exam will not be replaced.

Online Quizzes (Eagle Online):

There will be a 30 problem multiple choice quiz given **through Eagle Online** once each chapter is completed. Students will only be given one attempt to complete these quizzes. The quizzes will include questions and problems over the current material but may require some knowledge of the previous material. These quizzes may be taken from your home computer. Students may use books and notes, while taking these quizzes. All quizzes are timed (45 minutes) and will automatically close when the time limit has been reached. Students are not allowed to copy or print exams or use another person for help - including, but not limited to telling students what questions to expect on the quizzes. Doing so will be considered cheating and you will be removed from the course. **No make-up quizzes are allowed** for any excuse.

Short Answer Quizzes:

There will be a 6 problem short answer (**face-to-face**) quiz given in class for every two chapters are completed. The quizzes will include questions and problems over the current material but may require some knowledge of the previous material. The quizzes are timed (30 minutes). Your lowest quiz grade will be dropped at the end of the semester. **No make-up quizzes are allowed** for any excuse.

Exam Policy:

The student will be expected to bring a Scantron card for every exam. **No make-up exams are allowed** for any excuse.

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System Final Exam:

The System Final is mandatory and cannot be dropped. Thus missing the Final or inadequate preparation for it will have adverse consequence affecting your grade.

Lab Policy:

No make-up labs are allowed. Students must watch **safety video** during the **first day** of class (<http://www.youtube.com/watch?v=9o77QFeM-68>). In lab section, there will be **point deduction** for tardiness (15 min), early departure without finishing the lab or instructor's approval, and not cleaning up the lab benches and hoods, dumping chemicals in sinks/trash cans), excessive chemical usage, and safety violations.

Lab Safety:

In addition, all rules covered in the ACS Safety Video must be followed exactly during the laboratory. Students will be asked to leave if the rules are not being followed. Experiments are performed **in lab groups**: a maximum 5 students.

Pre-Lab Assignment:

Students are required to read through the experiment and complete BOTH the laboratory notebook* and the prelab assignment in order to be able to participate in each experiment. If the laboratory notebook or prelab assignment is not completed prior to the start of lab, the student will receive a grade of a zero for that laboratory.

*Procedures, hazards, and in-lab guidelines must be written out in lab notebook to participate in lab.

Important Message from Instructor to All Students:

This syllabus serves as a binding **contract** between students and the instructor. Any rule, grading and grade calculation are solely based on what stated in the syllabus.

- 1. Cell phones: Usage in the class and lab room.** All cell phones **must be turned off** during an examination or quiz and should be in silent mode in class (lab and lecture). *If your phone rings during an exam/quiz, you'll automatically receive a zero for that assignment.* If you must use it, please LEAVE the lecture or lab room.
- 2. Withdrawal:** *Students who simply stop coming to class WITHOUT officially dropping the class will receive an F from this course.* The instructor will **not** drop students from class due to student's excessive absence or unsatisfactory performance. If you are dropped by HCC at the first attendance record, the instructor will not reinstate your enrollment. If you need to drop the class, you must do it by **one** of the following two methods **by April 5, 2016**: a) Completing an official withdrawal form at any HCCS campus, or b) Go online and drop yourself.
- 3. Early Departure:** Please sit near the (exit) door if you do not plan to stay for the entire class time. If you must leave class, please do so quietly. ***Learning is a personal choice and also a group activity: the behavior of each person in class will affect the experience of the other students; please be courteous.***
- 4. Tardiness:** On short answer quiz or exam days, the assessment will start exactly 5 minutes after the class start time. You will receive exactly 30 minutes to complete a quiz and exactly 2 hours to complete an exam. After that time the exams/quizzes will be collected and you will commence the laboratory session. **No one will receive extra time**, even if they arrive late (for any reason). If there is no lecture/laboratory session scheduled for that day, after the exam/quiz collection you will be free to leave.
- 5. Questions:** Questions are always welcome, and encouraged. Try to keep questions on topic during lecture. If they are not quite what we are talking about in lecture, you will be asked to wait until after the period to continue the discussion. This is only so we will be able to cover all we need to in class!

Important Message from HCCS to All Students:

"Students who repeat a course three or more times may soon face significant tuition/fee increases at HCC and other Texas public colleges and universities. Please ask your instructor/counselor about opportunities for tutoring/other assistance prior to considering course withdrawal, or if you are not receiving passing grades."

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Houston Community College Chemistry Department Rules and Regulations: Contact Department Chair, Dr. Ewane for HCC policies related questions. All cell phones should be turned off during examinations and should be at silent mode during lecture sections. No restroom use unless it's an emergency during the test.

Free Review/Tutoring

1. Prof. Heath's Chemistry Channel: Lecture Videos: <http://www.youtube.com/user/theprofessorheath>
 2. Departmental tutors provided by Southeast College (Tutoring Center - FM 203)
 3. AskOnline (for all Colleges): <http://hccs.askonline.net/>
- Available 24 hours a day, 7 days a week, 365 days a year. See the HCC Home page for details.
4. Office Hours: On previously specified days.

TITLE IX OF THE EDUCATION AMENDMENTS OF 1972, 20 U.S.C. A§ 1681 ET. SEQ.

Title IX of the Education Amendments of 1972 requires that institutions have policies and procedures that protect students' rights with regard to sex/gender discrimination. Information regarding these rights are on the HCC website under Students-Anti-discrimination. Students who are pregnant and require accommodations should contact any of the ADA Counselors for assistance.

It is important that every student understands and conforms to respectful behavior while at HCC. Sexual misconduct is not condoned and will be addressed promptly. Know your rights and how to avoid these difficult situations.

Log in to: www.edurisksolutions.org . Sign in using your HCC student e-mail account, then go to the button at the top right that says **Login** and enter your student number.

American Disability Act

Any student with a documented disability (e.g. physical, learning, psychiatric, vision, hearing, etc.) who needs to arrange reasonable accommodations must contact the appropriate HCC Disability Support Service (DSS) Counselor at the beginning of each semester. Faculty is authorized to provide only the accommodations requested by the Disability Support Services Office. Students who are requesting special testing accommodations must first contact the appropriate (most convenient) DSS office for assistance:

Disability Support Services Offices

System: 713.718.5165 Central: 713.718.6164 (also Deaf and Outside HCC Service Students)
Southeast: 713.718.7218 Southwest: 713.718.7909
Northeast: 713.718.8420 Northwest: 713.718.5422

Tips for Learning Chemistry in a Sixteen Week Course:

Organic Chemistry is a difficult drawing and math based subject, which requires conceptual understanding and practice drawing, and is not a subject that you can master or even learn passively. You must read through the textbook before coming to class, review the lecture slides, attend lectures, and come to office hours if you are having trouble to effectively comprehend the material. **Chemistry is best learned through doing.**

Listening to lecture attentively is essential for understanding the course topics, but actually working out problems by hand is even more essential. **Remember that reading solutions is completely different from solving problems and doing homework and solving practice exams yourself.**

It requires a student who is skillful in chemistry **more than 20 hours a week** of study and practice to become proficient in the subject matter (*not including coming to lecture and lab*). Students easily fall behind if they do not keep up weekly study and miss classes. Scores from exams speak for your preparation for class. If your quiz/exam scores are not up to your standards, please come to office hours and find out where your problems lie: I am happy to help! See you in class.