

**CHEM 2320-070 ORGANIC CHEMISTRY II  
SYLLABUS – SPRING 2020**

- INSTRUCTOR:** Dr. Ryan Stolley  
Office: HEB 4222  
Email: ryan.stolley@utah.edu  
Assistant: Dasha Walker, E-mail: [daria.walker@utah.edu](mailto:daria.walker@utah.edu)
- CLASS TIME:** Tuesdays and Thursdays 6p-8p; Sandy Center rm 106
- OFFICE HOURS:** Tuesdays and Wednesdays: 10a-11a in foyer of HEB; or by appointment.
- TEACHING ASSISTANTS:** Lauren Astin and Brian Klemser (emails and Office Hours TBD).
- COURSE DESCRIPTION:** This course is a continuation of organic chemistry 1 that focuses on radicals, conjugation, aromaticity and carbonyl chemistry. We will continue with characterization via NMR, IR, and MS.
- PRE-, CO-REQUISITES:** CHEM 2310 is a prerequisite for this course. CHEM 2325 is a co-requisite laboratory course for CHEM 2320. While not all degrees require the laboratory component, students who require it should take CHEM 2315 concurrent with CHEM 2320.
- LECTURE:** Tuesday and Thursday from 6-8pm at the Sandy Campus. You are expected to be at each lecture. Participation in activities is critical and class will account for 10% of your grade. If you are unable to attend lecture it is your responsibility to inform the instructor PRIOR to absence and make arrangements to obtain the material. Slides and lecture materials will be posted to Canvas – however these **will not be annotated**.
- TEXTS AND MATERIALS:** **Required Text:** “Organic Chemistry” David Klein (3<sup>rd</sup> edition)  
**Strongly Recommended Supplement:** Molecular Model Kit (I prefer HGS or Molymod).  
**Somewhat Recommended:** “Organic Chemistry as a Second Language” David Klein. I see Klein as an excellent introduction to the important basics (electronegativity, resonance, acid/base chemistry). However, you should expect to see higher-level questions on the exams and therefore using Klein exclusively is not recommended.  
**Note recording device (paper, tablet, laptop) – and writing utensil.** Obviously.
- COURSE WEBSITES:** Canvas: <https://learn-uu.uen.org/> The course will be listed on canvas as: **CHEM 2320-070 Spring 2020**. This general site is maintained by the instructor. Look there to find lecture slides, textbook, quizzes, additional notes all of the experiments, updates and announcements from the instructor. Please check in this document or on the website before sending an email inquiry if answer can be readily found elsewhere.

**POINT**

<u>Item (number)</u>	<u>Points</u>	<u>% of Final Grade</u>
Celebrations of knowledge (3)	3 x 100	33%
Gala of Knowledge (1)	1 x 200	22%

BREAKDOWN:	Quizzes (6)	6 x 50	33%
	Activities	12 x 10	12%
GRADING:	Homework	12 x 0	0
	Extra Credit	2 x 25	+5%

The final grades will be assigned as follows – however **I may adjust the scale at any time.** (1) All %'s will be rounded (i.e. 59.4%=59%, 89.5%=90%), (2) Letter grades will be given approximately as ≥94% - A; 90-93% - A-; 87-89% - B+; 84-86% - B; 80-83% - B-; 77-79% - C+; 74-76% - C; 69-73% - C-; 87-89% - B+; 60-69% D; <60% F.

Your scores will be available approximately one week after an assignment has been turned in. Please check your grades early and often to ensure that everything has been entered accurately. **IMPORTANT: Please inform the instructor of concerns regarding the grading of assignments as soon as possible in the semester so that the problem can be addressed.**

**HOMEWORK:** Chemistry can be very difficult and getting practice is important. There will be homework assignments every week in order for you to practice your chemistry skills – however these will not be graded – I will provide solutions for selected problems on Canvas.

**QUIZZES:** There will be SIX (6) quizzes during the semester. These will be random and consist of the material for the section being covered at the time. **These will be a large part of your grade and reading ahead and doing your homework will be the only way to be successful.**

**ACTIVITIES** There will be twelve (12) activities which will be done in class every day. You are expected to work on the activities with others in class, however not required to complete the activities. The groups will be shuffled every week in order to expand your responsibility as a learner and teacher. **There are no make-up activities for points with prior approval from Dr. Stolley.**

**CELEBRATIONS OF KNOWLEDGE:** There will be three (3) celebrations of knowledge, which be comprehensive individual assessments to celebrate your competence in the associated units. **There are no make-up COKs allowed but arrangements can be made to take it early.**

**WITHDRAWAL INSTRUCTIONS:** The last day to drop a class without tuition penalties is Friday, January 17<sup>th</sup>. It is possible to withdraw from the course up to Friday, February 20<sup>th</sup>, but you will still have to pay tuition for the course and a “W” will appear on your transcript. You do NOT need the instructor's signature to withdraw. After March 6<sup>th</sup>, a student must petition for withdrawal to the Dean's office of their academic college. University policy states that withdrawals after this date should only be granted for "non-academic reasons beyond the student's control." "I want to avoid a bad grade" or similar does not qualify.

**ACADEMIC HONESTY:** **All students are expected to act honestly in the course.** By submitting an assignment, you are representing that it is your own work and that you have followed the rules associated with the assignment. Any and all cases of suspected academic dishonesty such as cheating, plagiarizing, or misrepresenting one's work will be dealt with severely, in accordance with the Student Code: <http://www.admin.utah.edu/ppmanual/8/8-10.html>. A few specific guidelines are given below. If you have questions about what is acceptable please ask!

- All work in the class must belong to the student alone. It should be completed by the individual and everything should be in the student's own words. Each student should record his/her own data as the experiment progresses and must complete any analysis individually.
- Students are encouraged to discuss results and conclusions to more fully understand the experiment, however all written work should be done individually, even when working in groups. This means that reports may contain similar ideas, but everything should be presented in your own words and formatting.

**DISABILITIES:** Any student needing special consideration because of a disability should contact the Center for Disability Services, 162 Olpin Union Building, 581-5020. Contact Professor Stolley if you need help as well.

The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, 581-5020 (V/TDD). CDS will work with you and the instructor to make arrangements for accommodations.

All written information in this course can be made available in alternative format with prior notification to the Center for Disability Services.

**TITLE IX** Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veteran's status or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to the police, contact the Department of Public Safety, 801-585-2677(COPS).

**WELLNESS STATEMENT:** Personal concerns such as stress, anxiety, relationship difficulties, depression, cross-cultural differences, etc., can interfere with a student's ability to succeed and thrive at the University of Utah. For helpful resources contact the Center for Student Wellness at [www.wellness.utah.edu](http://www.wellness.utah.edu) or 801-581-7776.

**EMERGENCY INFO:** In the event of a personal emergency that impacts your ability to participate in the class, you should contact your TA immediately. If an emergency occurs in the lab, please call University Police at (801) 585-2677 or "911" to report emergency and ask for emergency assistance.

**DISCLAIMER:** This syllabus is meant to serve as an outline and guide for our course. Please note that I may modify it with reasonable notice to you. I may also modify the Course Schedule to accommodate the needs of our class. Any changes will be announced in class and via email.

## Tentative Schedule:

### Important Dates:

Spring Break	March 8 <sup>th</sup> -15 <sup>th</sup>
Cumulative Final	Tuesday, April 30 <sup>th</sup> , 3:30-5:30 PM

### Homework Problems Schedule:

Required Reading and Suggested Problems	Week(s)
Chapter 10: 23, 27, 30, 32, 36, 44a-e, 49, 52, 54, 61	1
Chapter 16: 30, 31, 35, 37, 39, 40, 42, 43, 44, 62, 67, 75	2
Chapter 16: 51, 52, 54, 55, 56, 57, 58, 63, 65, 66, 71, 76 Chapter 17: 25, 30-33, 34, 35, 36, 37, 38, 57, 67, 68	3
Chapter 18: 38-43, 45, 46, 49, 50, 53, 54, 61, 63, 64, 67, 83,	4
Chapter 17.6: 42, 43, 50, 51, 53, 60, 69, 74	5
Review: complete missing assignments, practice synthesis.	6
Chapter 19: 49, 54a-h, 55, 56, 59-61, 63, 64a-e, 70, 76, 83,	7
Chapter 19: 50-52, 54i-l, 69, 75, 77, Chapter 20: 35, 41, 42, 44-46, 48, 51, 53, 59, 61, 69, 88, 89	8
Review: complete missing assignments, practice synthesis.	9
Spring Break – get sleep, keep practicing.	10
Review: complete missing assignments, exam prep.	11
Chapter 21: 47-51, 53, 55, 56, 57, 59, 60-63, 66, 67-69, 71, 73, 77, 78,	12
Chapter 21: 79-82, 83, 84-88,	13
Chapter 20.13: read	14
Chapter 22: 38, 44-46, 49, 51, 53, 55, 57, 58, 61, 63, 65, 67,	15
Chapter 24: read	15
Chapter 25: read	16

### Tentative Lecture Schedule

Lecture	Day	Date	Chapter
1	Tu	Jan 7	Intro and Review
2	Th	Jan 9	Radicals
3	Tu	Jan 14	Conjugation, resonance, dienes addition rxns

4	Th	Jan 16	Diels-Alder
5	Tu	Jan 21	Electrocyclizations
6	Th	Jan 23	Benzene and aromaticity
7	Tu	Jan 28	Electrophilic aromatic substitution
8	Th	Jan 30	EAS/NAS
9	Tu	Feb 4	Synthesis Work/Benzylic Reactions
10	Th	Feb 6	Flex
11	Tu	Feb 11	Review
<b>EXAM I</b>	Th	<b>Feb 13</b>	<b>Radicals, Dienes, DA, Aromaticity, EAS</b>
12	Tu	Feb 18	Redox and Synthesis Carbonyls
13	Th	Feb 20	Aldehydes/Ketones, O,S,N-Nuc
14	Tu	Feb 25	Carbon Nuc. Protecting Groups
15	Th	Feb 27	Carboxylic Acids and Derivatives
16	Tu	March 3	Flex
17	Th	March 5	Synthesis
<b>No Class</b>	-	<b>M 8-14</b>	<b>Spring Break</b>
18	Tu	March 17	Review
<b>EXAM II</b>	Th	<b>March 19</b>	<b>Carbonyl Addition/Sub</b>
19	Tu	March 24	Carbonyl $\alpha$ -Substitution, Malonic/Acetylacetonate Synth.
20	Th	March 26	Aldol, Claisen, Dieckmann,
21	Tu	March 31	Michael, Robinson Annulation, Stork
22	Th	April 2	Flex
23	Tu	April 7	Amines, Nitriles
24	Th	April 9	Review
<b>EXAM III</b>	Tu	<b>April 14</b>	<b>Carbonyl <math>\alpha</math>-substitution, Named rxns, Amines</b>
25	Th	April 16	Stereochemistry, Carbohydrates
26	Tu	April 21	Lipids, Amino Acids, Nucleic Acids
27	Th	April 23	Review
<b>Final Exam</b>	Tu	<b>April 28</b>	<b>Cumulative</b>