**Chemistry 110b - Organic Chemistry**

**Course Syllabus**

**Pomona College**

**Spring Semester 2020**

Lecture: MWF, 8:00 AM and 9:00 AM

Seaver North Auditorium

Instructor: Prof. Dan O'Leary, 621-8444

Seaver North 114

Email: [doleary@pomona.edu](mailto:doleary@pomona.edu)

Office hours: TuTh: 9:30-11:00 AM

Other times by appointment & drop-ins will be accommodated when possible.

Problem/Review sessions: W: 7:00 PM, SN Aud

Academic Coordinator: Lauri Bell, 621-8448

LC Teaching Fellows: Felipe Becerril, Christina Beck, Isabelle Cheng, Junha Gu, Nathalie Hong, Shy Lavasani, Allison Liu, Casey Morrison, Jerusalem Nerayo, Eric Tang, Baili Zhong.

**Required Course Material**

Solomons and Fryhle, "Organic Chemistry", John Wiley & Sons, 11th Ed.

Solomons, Fryhle, and Johnson, "Study Guide and Solutions Manual to Accompany Organic Chemistry, 11th Ed.", John Wiley & Sons.

Darling Molecular Model Kit

**110b Material Available Online—Exam Review Sheets & Old Exams**

http://pages.pomona.edu/~djo04747/110/

**Course Objectives**

You will be expected to become familiar with, and conversant in, fundamental aspects of organic chemistry.

**Course Requirements**

Five **100 point examinations** will be given as follows:

1. February 7 (Review session 7:00 PM, 2/5)
2. February 28 (Review session 7:00 PM, 2/26)
3. March 13 (Review session 7:00 PM 3/11)
4. April 10 (Review session 7:00 PM 4/8)
5. May 14 (Review session 7:00 PM 5/6)

Introductory organic chemistry is a cumulative subject, and 110b exams will expect an integration of fundamental ideas as they are presented.

All exams must be taken. If this expectation is met, the lowest exam score will be dropped and a percentage of 400 total points will determine the lecture letter grade, using the fixed scale. If any of the exams are not taken, then a percentage of 500 total points will determine the lecture letter grade, using the fixed scale. The lecture grade is then converted to the Pomona College scale (A=12, B=9, etc.) and combined in a weighted manner with the laboratory grade (similarly converted out of the total laboratory points) to assign a grade for the course. 75% of the course grade constitutes the lecture material, while 25% reflects your laboratory grade.

**Lecture Grading Scale**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| A | 88+ |  | C | 52-57 |
| A- | 82-87 |  | C- | 46-51 |
| B+ | 76-81 |  | D+ | 40-45 |
| B | 70-75 |  | D | 34-39 |
| B- | 64-69 |  | D- | 28-33 |
| C+ | 58-63 |  | F | <27 |

**110b Course Calendar- Spring 2020**

**Exam 1 Material**

|  |  |  |
| --- | --- | --- |
| **Date** | **Topic** | **Reading** |
| 1/22 | Introduction, Aromatic Compounds | 14 |
| 1/24 | Aromatic Compounds | 14 |
| 1/27 | Aromatic Compounds | 14 |
| 1/29 | Electrophilic Aromatic Substitution | 15 |
| 1/31 | Electrophilic Aromatic Substitution | 15 |
| 2/3 | Electrophilic Aromatic Substitution | 15 |
| 2/5 | **review** | 14-15 |
| 2/7 | **Exam 1** | 14-15 |

**Exam 2 Material**

|  |  |  |
| --- | --- | --- |
| **Date** | **Topic** | **Reading** |
| 2/10 | **Hammett Equation** | handout |
| 2/12 | Aldehydes and Ketones | 16 |
| 2/14 | Aldehydes and Ketones | 16 |
| 2/17 | Aldehydes and Ketones | 16 |
| 2/19 | Carboxylic Acids | 17 |
| 2/21 | Carboxylic Acids | 17 |
| 2/24 | Carboxylic Acids | 17 |
| 2/26 | **review** | 16-17 |
| 2/28 | **Exam 2** | 16-17 |

**Exam 3 Material**

|  |  |  |
| --- | --- | --- |
| **Date** | **Topic** | **Reading** |
| 3/2 | Carbonyl Compounds | 18 |
| 3/4 | Carbonyl Compounds | 18 |
| 3/6 | Carbonyl Compounds | 18 |
| 3/9 | Carbonyl Compounds | 18 |
| 3/11 | **review** | 18 |
| 3/13 | **Exam 3** | 18 |
|  | **Spring Recess 3/16-3/20** |  |

**Exam 4 Material**

|  |  |  |
| --- | --- | --- |
| **Date** | **Topic** | **Reading** |
| 3/23 | Carbonyl Compounds | 19 |
| 3/25 | Carbonyl Compounds | 19 |
| 3/27 | **No Class – Cesar Chavez Day** |  |
| 3/30 | Carbonyl Compounds | 19 |
| 4/1 | Amines | 20 |
| 4/3 | Amines | 20 |
| 4/6 | Amines | 20 |
| 4/8 | **review** | 19-20 |
| 4/10 | **Exam 4** | 19-20 |

# Exam 5 Material

|  |  |  |
| --- | --- | --- |
| **Date** | **Topic** | **Reading** |
| 4/13 | Amino Acids and Proteins | 24 |
| 4/15 | Amino Acids and Proteins | 24 |
| 4/17 | Phenols and NAS | 21 |
| 4/20 | Phenols and NAS | 21 |
| 4/22 | Phenols and NAS | 21 |
| 4/24 | The chemistry of Percy Julian | Handout |
| 4/27 | Carbohydrates | 22 |
| 4/29 | Carbohydrates | 22 |
| 5/1 | **no lecture-lab exam** |  |
| 5/4 | Carbohydrates | 22 |
| 5/6 | **review & course evaluation** |  |
| 5/14 | **Exam 5, 9:00 AM** | 21, 22, 24 |

**Important Policies and Procedures - Chemistry 110b**

1. It’s all about **pacing** yourself! The key to success in this course is to learn the basic material and to apply it to **solving problems**. Read your lecture notes and the book and then try to solve the assigned textbook problems on your own—use the answer key only after you’ve given a problem some thought & a trial answer. Set aside some ‘O-chem time’ each day and **do this on a regular basis** throughout the week. Most exams will incorporate a few assigned book problems, so you can consider working these problems as time well spent.

2. **Review & Learning Community sessions** will be scheduled prior to each exam. These are not mandatory but students in prior years have found them helpful.

3. **Exam Grading.** Look over your exam carefully when it is returned to you. If you have any questions about the grading, see me immediately in order to resolve any issues.

4. **Test Answers**. Once the exams have been graded, the exam key will be posted online.

5. **Make-up Exams** will be arranged only in the case of *verifiable* extenuating circumstances. If you miss an exam without a valid excuse, you could receive zero points for that exam and forfeit your right to a makeup exam.

6. Pomona College is committed to making all courses accessible for everyone. If you need academic accommodations, please contact the Accessibility Resources and Services (ARS) in the Dean of Students office and visit the Accommodation Services page for more information about how the accommodation process. I encourage you to come talk to me about your accommodations. As a Pomona faculty member, I am dedicated to supporting all students in my courses and making this course accessible for everyone. If you have any questions about accommodations, please reach out to Accessibility Resources and Services (ARS) at [disability@pomona.edu](mailto:disability@pomona.edu) or 909-621-8017.

7. Pomona College has an Academic Honesty Policy; please review it (catalog.pomona.edu) and note that we will adhere to it.

8. To pass 110A, passing grades (D- or higher) are required in both the lecture and laboratory components of the course. In cases where a non-passing lecture or lab grade is earned, the maximum possible course grade will be an F letter grade, or an NC grade if the course is being taken with the P/NC option.

9. Students should feel **welcome** to see me for assistance with the course material.