CHEM:1080  GENERAL CHEMISTRY II  SPRING 2023

COURSE DESCRIPTION: Organic chemistry and biochemistry.

INSTRUCTORS: Dr. Florence Williams; florence-williams@uiowa.edu

*When emailing us, please include the course name/number (Chem 1080) in your subject line!

I prefer to be addressed as Dr. Williams or Prof. Williams. (She/Her)


**Please only access the Textbook through ICON. If you try to access it separately, it may ask you to purchase the textbook again. To avoid double-paying, always go through ICON**

COURSE DELIVERY: MWF 2:30-3:20 in MH AUD (wearing masks is encouraged)

* Lectures will also be recorded using UICapture/Panopto. These recordings will be posted to our course ICON site. Attendance in lecture is not required nor counted as part of a student’s grade.

The University of Iowa strongly encourages students, faculty, and staff to be vaccinated against COVID-19. Face mask usage is welcome but is not required except in specified research and healthcare settings.

WEB SITE: Online content for the course will be managed using the ICON (Iowa Courses Online) system (http://icon.uiowa.edu/index.shtml). The site will be used to post copies of the slides used in class, practice exams, exam keys, and announcements.

STUDENT (OFFICE) HOURS: Student/Professor discussion periods will be hosted via Zoom and in person. Links to the zoom sessions will be posted under the Zoom module of the course ICON site. These student hours are meant to address student questions and assist with course content. No appointment is needed to attend. The sessions will not be recorded. Session times are listed below:

Zoom: Monday 9:30-11 am, meeting ID 960 6475 4238
In-Person: Thursday 11:00 am-12:00 pm, W285 Chemistry Building **this may move to a larger room depending on attendance/popularity, please check ICON for most up to date location**
COURSE CONTENT AND PREREQUISITES:

This course fulfills the natural science requirement for undergraduate degrees offered by the College of Liberal Arts and Sciences (as well as the Colleges of Education, Medicine, Public Health, Tippie College of Business, and University College). Courses in this area explore the scope and major concepts of a scientific discipline. In this course students will also learn the attitudes and practices of scientific investigators including logic, precision, experimentation, tentativeness, and objectivity.

Content: Introductory organic chemistry and biochemistry: structure and representations of molecules; physical and chemical properties; introduction to reactions; applications: polymers, nutrition, drugs, etc.

Prerequisites: CHEM:1070 or high school chemistry.

A basic understanding of atoms and molecules, as well as a basic understanding of algebra, exponents and log values will be assumed.

COURSE GRADES:

Final course grades will be assessed based on student’s performance in the following items:

<table>
<thead>
<tr>
<th>Graded Item</th>
<th>Points</th>
<th>Percent of total grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 exams (100 points each)</td>
<td>300</td>
<td>50%</td>
</tr>
<tr>
<td>12 homework assignments (10 points each)</td>
<td>120</td>
<td>20%</td>
</tr>
<tr>
<td>Weekly participation questionnaires (2 points each)</td>
<td>30</td>
<td>5%</td>
</tr>
<tr>
<td>Discussion Activities (5 points each for a total of 8 sessions)</td>
<td>40</td>
<td>7%</td>
</tr>
<tr>
<td>Course Expectations Quiz</td>
<td>10</td>
<td>2%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>100</td>
<td>16%</td>
</tr>
<tr>
<td>Total:</td>
<td>600</td>
<td>100%</td>
</tr>
</tbody>
</table>

For our course, the College of Liberal Arts and Sciences strongly suggests a Criterion-Referenced grading scheme with the percent equivalencies shown below.

Criterion-Referenced grading scheme:

100-99% A+      89-87%  B+      79-77%  C+      69-67%  D+      59-0%  F
98-93% A        86-83%  B        76-73%  C        66-63%  D
92-90% A-        82-80%  B-       72-70%  C-       62-60%  D-

All scores will be posted on ICON.
EXAM SCHEDULE: Exams dates, times and places are given below.

<table>
<thead>
<tr>
<th>Exam</th>
<th>Date</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Feb. 8</td>
<td>6:30-8:00 pm</td>
<td>W128 CB/ MH Aud</td>
</tr>
<tr>
<td>2</td>
<td>Mar. 8</td>
<td>6:30-8:00 pm</td>
<td>W128 CB/ MH Aud</td>
</tr>
<tr>
<td>3</td>
<td>Apr. 12</td>
<td>6:30-8:00 pm</td>
<td>W128 CB/ MH Aud</td>
</tr>
<tr>
<td>Final</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
</tbody>
</table>

EXAMINATIONS: Exams are closed-book. Leave textbooks, notes, etc., at home or in the front of the room before the start of the exam. No electronic devices are allowed during exams, including cell phones. There will be three exams of 90 minutes each and a 120 minute final. The exams will be a mixture of multiple choice and free response style questions. Exams will be scanned into gradescope and graded using the gradescope software. Exams and grading marks will be visible to students through gradescope. (More information regarding gradescope will be given closer to the first exam date). Note: Instructors will not be able to not respond to emails nor hold meetings regarding exam material/questions beginning 24 hours prior to exams.

Each exam is comprehensive but will emphasize material since the previous exam. Chemistry builds on what was learned before; it is important to continually add to your fountain of knowledge. Exams must touch on material that was learned earlier in the semester, but in most instances the focus will be on concepts that we covered since the previous exam. It is wise to review all of the material since Day 1 for each exam.

The final exam will be comprehensive.

MAKE-UP EXAMS: Make-up exams will be given under exceptional circumstances only. You must sign up for the make-up and give an acceptable reason before the regular exam is given. Under no circumstances will a make-up be given to take the place of a regular exam taken earlier. To sign up for a make-up exam, use the sign up link on ICON or email the chemistry center prior to the regular exam with the reason for your absence.

FINAL EXAMINATIONS: No student is required to take more than two examinations in one day. A potential problem may be eased by students closely checking the exam schedule. An undergraduate student who has (a) two examinations scheduled for the same period or (b) more than two examinations scheduled for the same day may schedule an alternate time for the final exam.

HOMEWORK: The online homework on Aleks will allow you to draw structures, learn concepts, and prepare you to excel in this course. These problems are critical to learning chemistry, so we will take advantage of Aleks.
We will post one homework assignment for each chapter, with the last homework assignment covering the last two chapters together. The due date and time will be clearly listed in Alek. You should assume we are going to have regular homework assignments and look for them on Aleks.

The homework questions will be assigned at random from a pool of questions so folks working on adjacent computers will get different questions. Because of this, we are assigning the homework as “full collaboration”. That phrase means that you may work with your classmates, friends, tutors, or anyone else to complete the homework. You may work alone if you wish, but no penalty will be given to those who work together. This policy does not mean that you should copy someone else’s homework: that is not allowed and will be viewed as cheating. You must make an honest effort to complete the homework and understand the answers. One good method to know if you understand the answers is to ask yourself if you can reproduce your homework if you are alone in front of the computer. If you can reproduce your homework, you have some level of understanding of it. Homework is an excellent vehicle for learning class material - take advantage of this opportunity and you will do well on the exams.

The instructions for each assignment will be clearly listed on each assignment. Late homework within the accepted time period (typically 1 week) will have a 20% point deduction applied to it. No additional extensions be given without University approved reason.

**DISCUSSION SESSIONS:**
Our course Graduate Teaching Assistants (TAs) will lead these discussions. This time is reserved for problem solving, discussion of lecture material, and explanations of exam answers. We strongly encourage you to attend these sections as the TAs are excellent and can help you learn the material. Attendance in discussion will be counted towards students’ final grade. Participation will be graded by submitting a worksheet to your TA. Each discussion session will be worth 5 points. The total points possible for the discussion portion of a student’s grade will be 40 points. This allows for a student’s need to be absent from discussion from time to time without a grade penalty. At this time, all discussions will be held face-to-face. Wearing masks is encouraged.

The TA email addresses and office hours will be given on ICON.

**SI SESSIONS**
SI sessions are additional review/practice sessions with a knowledgeable student leader and can be a helpful resource to aid your learning in this class. Our instructional team meets regularly with the University sponsored Supplemental Instruction leader to ensure that they are focusing on the most important elements of the course material. Sessions are optional, no participation grade is associated with SI sessions. Information can be found online.
at https://tutor.uiowa.edu/general-chemistry-ii-chem1080. Our SI leader is Claudia Jun, and her SI sessions will be held in person at the following times at the Academic Resource Center (ARC), lower level of the Iowa Memorial Union (IMU):

<table>
<thead>
<tr>
<th>Course</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Chemistry II</td>
<td>Tuesdays 6:00-6:50 PM</td>
</tr>
<tr>
<td>CHEM:1080</td>
<td>Wednesdays 1:30-2:20 PM</td>
</tr>
<tr>
<td>SI Leader: Claudia</td>
<td>Fridays 9:30-10:20 AM</td>
</tr>
</tbody>
</table>

**PARTICIPATION QUESTIONNAIRES:** Over the duration of the semester, we will release 15 participation questionnaires through the course ICON site. These questionnaires will be used to seek out feedback from students on topics such as: current study tools being used, topics students are struggling with most, etc. Questions will be graded on completion, not on “right/wrong.” Each questionnaire will be worth 2 points. The close date (due date) for each questionnaire will be clearly listed on the ICON site. Because these questionnaires are meant to provide “real-time” feedback relevant to the course at its current state, no late questionnaires will be graded, nor will extensions be given.

**TOPHAT**
During lecture, we will use the TopHat platform for feedback/digital interactions. You can access TopHat through ICON.

**COURSE EXPECTATIONS QUIZ**
The course expectations quiz is a short, multiple-choice quiz given during the first week of classes. The quiz will ask questions regarding topics covered in the course syllabus. The quiz will be found on the ICON course page under the quiz tab.

**ZOOM:** If course components are migrated to an online format, live sessions will be held via Zoom. To maintain professionalism, the following rules will be followed by all Zoom participants:
- No profanity or vulgar language will be allowed
- Appropriate dress is required any time video is used
- Keep all posts and comments related to course work
- Only UI students enrolled in the course may join, participate, or be visible during our zoom sessions.

We reserve the right to bar any student who does not adhere to these rules after the first offense.

**CHEATING:**
Our scientific environment is maintained through the actions of its members and the trust we place in one another. Scientists are expected to remain honest in their words and actions. When this trust is broken the results are often severe and career threatening. One should not cheat on the false assumptions that 1) no one is harmed if no one is aware of the cheating or 2) it is alright to cheat
if you aren’t caught. A good scientist will hold themselves to a higher standard where cheating, even if it isn’t discovered, is wrong.

With this important responsibility comes the privilege of being a member of a community that values openness and truth. As you are all scientists in training we will expect you to act accordingly and with an upright manner. Anyone caught cheating will fail and will be reported to the administration.

**SUGGESTIONS FOR SUCCESSFUL STUDY IN GENERAL CHEMISTRY II:**

This course will include challenging material. However, the tests and assignments are designed so that any student who is willing to put in the time to attend class consistently, work extensively outside of class, use or develop good study strategies, and contact the TA or instructor when they are struggling, can develop a thorough understanding of the course material and ultimately succeed in the course.

During the duration of this term, you will need to practice successful study habits both regarding the Chemistry content and due to the nature of an online course. To be successful in this course, I recommend the following:

- Establish an organized and comfortable space that is dedicated for your study time.
- Keep a set schedule for study time for this course. Just as you would have a set schedule in a face-to-face course (i.e.- lecture time, discussion hour, office hours, etc.), set this for the online course as well. Studying a little bit each day helps develop better understanding and retention versus waiting and “cramming” the night before an exam. (average 4 hrs/wk).
- Reinforce the material that is presented in the lectures and zoom session by reading the corresponding sections in the book. Work out the in-chapter problems as you go.
- You have a wealth of opportunities to reinforce concepts and solve problems with which you may be having difficulty. Avail yourself of the instructor and TA office hours, actively watch the lectures and participate in discussion sessions. These opportunities are offered to help you learn the Chemistry. Use them! Don’t wait until the last minute to ask for help. Ask questions as they come.
- Be willing to interact with the instructor, the TA, and your classmates during the zoom sessions. Communication is always important for education, but it is doubly important for online education! Don’t be shy, be willing to speak up, ask questions, and participate!
- Keep yourself on a steady pace! During this course, there will be regularly scheduled assignments. Reference the course schedule and the ICON site to make sure you do not miss a due date. Working at a steady pace will help you learn and understand at a deeper level. (and prevent a game of “catch up” 20 minutes before an assignment is due!)
Please keep in mind that you cannot simply memorize your way through this class! You have to understand the concepts and then apply them in new ways. You should tailor your studying habits to support this ability. For instance, if after getting a problem set back, you realize that you did it incorrectly, make sure you fully understand what the right answer is and why. Make sure you could reach that correct answer on your own.

If you feel overwhelmed and hopeless, please come to my office hours or make a special appointment with me before giving up on the class!! Often there is a fairly straightforward way for me to help you start to make sense of things.

My Philosophy: I am teaching this class with a focus on establishing a foundational knowledge that can then be applied, and therefore forms the basis of scientific understanding. A good way to view this course is as though it is a language course. We will spend time building your chemical vocabulary, which will involve memorization. However, we will quickly start to use that vocabulary to build “sentences.” That is, to explain how chemical patterns affect reactions and, ultimately, biological systems. As a result, while there is a significant memorization component, early on we will focus on using that knowledge to rationalize problems and understand why a reaction proceeds the way that it does, or why a particular molecule exhibits chemical characteristics.

I don’t subscribe to the belief that there are some people who “naturally get” chemistry and those who do not. Everyone can learn this material, and at the same time, it is challenging to all.

ADMINISTRATIVE INFORMATION from CLAS:

DROP-ADD SLIPS: For information on making any changes in registration, please visit the Office of the Registrar’s site listed below: https://registrar.uiowa.edu/changes-registration

COURSE INFORMATION: Inquiries about details of the course (e.g. extra copies of the syllabus, exam times and places, times and places of discussion sessions, etc.) should be taken to the Chemistry Center (chemistry-center@uiowa.edu).
DROP DATES:  
Deadline Date: January 31, 2022: last day to drop a course without a W. 
Deadline Date: April 4, 2022: Last day to drop without Dean’s approval.

DEPARTMENTAL HOME: Department of Chemistry

DEPARTMENTAL CONTACT INFORMATION: Len MacGillivray, DEO, E331 CB; Lindsay Elliott, Secretary to the Chair, E331 CB, 319-335-0200.

ADMINISTRATIVE HOME
The College of Liberal Arts and Sciences is the administrative home of this course and governs matters such as the add/drop deadlines, the second-grade-only option, and other related issues. Different colleges may have different policies. Questions may be addressed to 120 Schaeffer Hall, or see the CLAS Academic Policies Handbook at http://clas.uiowa.edu/students/handbook.

ATTENDANCE AND CLASSROOM EXPECTATIONS
Students are responsible for attending class and for knowing an instructor’s attendance policies, which vary by course and content area. All students are expected to attend class and to contribute to its learning environment in part by complying with University policies and directives regarding appropriate classroom behavior or other matters.

ABSENCES
Students are responsible for communicating with instructors as soon they know that an absence might occur or as soon as possible in the case of an illness or an unavoidable circumstance. Students can use the CLAS absence form to help communicate with instructors who will decide if the absence is excused or unexcused; the form is located on ICON within the top banner under "Student Tools.” Delays by students in communication with an instructor could result in a forfeit of what otherwise might be an excused absence (https://clas.uiowa.edu/students/handbook/attendance-absences).

ABSENCES: ILLNESS, UNAVOIDABLE CIRCUMSTANCES, AND UNIVERSITY SPONSORED ACTIVITIES
Students who are ill, in an unavoidable circumstance affecting academic work, or who miss class because of a University sponsored activity are allowed by UI policy to make up a missed exam. Documentation is required by the instructor except in the case of a brief illness. Students are responsible for communicating with instructors as soon as the absence is known (https://opsmanual.uiowa.edu/students/absences-class#8.1).

ABSENCES: HOLY DAYS
Reasonable accommodations are allowed for students whose religious holy days coincide with their classroom assignments, tests, and attendance if the student notifies the instructor in writing of any such religious Holy Day conflicts within the first days of the semester and no later than the third week. (See the UI Operations Manual, https://opsmanual.uiowa.edu/students/absences-class#8.2).
ABSENCES: MILITARY SERVICE OBLIGATIONS
Students absent from class due to U.S. veteran or U.S. military service obligations (including military service-related medical appointments, military orders, and National Guard Service obligations) must be excused without penalty. Instructors must make reasonable accommodations to allow students to make-up exams or other work. Students must communicate with their instructors about the expected possibility of missing class as soon as possible. (For more information, see https://opsmanual.uiowa.edu/iv-8-absences-class%C2%A0).

ACADEMIC INTEGRITY
All undergraduates enrolled in courses offered by CLAS have in essence agreed to the College's Code of Academic Honesty. Academic misconduct affects a student's related grade and is reported to the College which applies an additional sanction including suspension. Outcomes about misconduct are communicated through UI email (https://clas.uiowa.edu/students/handbook/academic-fraud-honor-code).

ACCOMMODATIONS FOR DISABILITIES
UI is committed to an educational experience that is accessible to all students. A student may request academic accommodations for a disability (such as a mental health, attention, learning, vision, and a physical or health-related condition) by registering with Student Disability Services (SDS). The student is then responsible for discussing specific accommodations with the instructor. More information is at https://sds.studentlife.uiowa.edu/.

CLASS RECORDINGS: PRIVACY AND SHARING
Some sessions of a course could be recorded or live-streamed. Such a recording or streaming will only be available to students registered for the course. These recordings are the intellectual property of the faculty, and they may not be shared or reproduced without the explicit written consent of the faculty member. Students may not share these sessions with those who are not enrolled in the course; likewise, students may not upload recordings to any other online environment. Doing so is a breach of the Code of Student Conduct and in some cases is a violation of the Federal Education Rights and Privacy Act (FERPA).

COMMUNICATION AND THE REQUIRED USE OF UI EMAIL
Students are responsible for official correspondences sent to the UI email address (uiowa.edu) and must use this address for all communication within or with UI (Operations Manual, III.15.2).

COMPLAINTS ABOUT ACADEMIC MATTERS
Students with a complaint about a grade or a related academic issue should first visit with the instructor and then with the course supervisor (if one is assigned), and next with the Chair of the department or program offering the course. If not resolved, students may bring their concerns to the College of Liberal Arts and Sciences: https://clas.uiowa.edu/students/handbook/student-rights-responsibilities.

FINAL EXAMINATION POLICIES
The final exam schedule is published during the fifth week of the fall and spring semesters or on the first day of summer classes; students are responsible for knowing the date, time, and place of their final exams. Students should not make travel plans until knowing this information. A student
with exams scheduled on the same day and time or who have more than two final exams on the same day should visit this page for how to resolve these problems by the given deadline: https://registrar.uiowa.edu/makeup-final-examination-policies. No exams may be scheduled the week before finals; some exception, however, have been made for labs, language courses, and off-cycle courses (https://registrar.uiowa.edu/final-examination-scheduling-policies).

FREE SPEECH AND EXPRESSION
The University of Iowa supports and upholds the First Amendment protection of freedom of speech and the principles of academic and artistic freedom. We are committed to open inquiry, vigorous debate, and creative expression inside and outside of the classroom. Visit Free Speech at Iowa for more information on the University’s policies on free speech and academic freedom (https://freespeech.uiowa.edu/).

NONDISCRIMINATION IN THE CLASSROOM
The University of Iowa is committed to making the classroom a respectful and inclusive space for people of all gender, sexual, racial, religious, and other identities. Toward this goal, students are invited in MyUI to optionally share the names and pronouns they would like their instructors and advisors to use to address them. The University of Iowa prohibits discrimination and harassment against individuals on the basis of race, class, gender, sexual orientation, national origin, and other identity categories set forth in the University’s Human Rights policy. For more information, contact the Office of Equal Opportunity and Diversity (https://diversity.uiowa.edu/eod; +1 319 335-0705 or diversity.uiowa.edu)

Respect for Diversity: It is our intent that students from all diverse backgrounds and perspectives be well-served by this course, that students’ learning needs be addressed both in and out of class, and that the diversity that students bring to this class be viewed as a resource, strength and benefit. It is our intent to present materials and activities that are respectful of diversity: gender, sexual orientation, disability, age, socioeconomic status, ethnicity, race, culture, perspective, and other background characteristics. Your suggestions about how to improve the value of diversity in this course are encouraged and appreciated. Please let us know ways to improve the effectiveness of the course for you personally or for other students or student groups.
In addition, in scheduling exams, the University has attempted to avoid conflicts with major religious holidays. If, however, exams or major deadlines have been scheduled in such a way that creates a conflict with your religious observances, please let us know as soon as possible so that we can make other arrangements.

SEXUAL HARASSMENT
Sexual harassment subverts the mission of the University and threatens the well-being of students, faculty, and staff. All members of the UI community must uphold the UI mission and contribute to a safe environment that enhances learning. Incidents of sexual harassment must be reported immediately. For assistance, please see https://osmrc.uiowa.edu/.

MENTAL HEALTH
As a student you may experience a range of issues that can cause barriers to learning. These might include strained relationships, anxiety, high levels of stress, alcohol/drug problems, feeling down, or loss of motivation. University Counseling Services is here to help with these or other issues you
may experience. You can learn about the free, confidential mental health services available on campus by calling 319-335-7294 or visiting https://counseling.uiowa.edu/. Help is always available.

Students are always welcome to reach out to us, but please note that the instructors and TA’s are mandatory reporters. If a student does not wish to disclose information to us, but is still in need to help, we highly recommend University Counseling Services as a confidential source of aid.

Cartoons from: xkcd.com