Chem 325, Fall 2021 [LECTURE SYLLABUS]

Please read through the syllabus carefully to see what to expect this semester. If you have any questions or concerns, please don't hesitate to contact me via e-mail (nbowling@uwsp.edu).

Quick Overview of the Lecture Course

1. This syllabus only covers your responsibilities for the lecture portion of the course. You also have responsibilities related to the laboratory portion. You can learn about these in the laboratory syllabus provided in Canvas.

2. You will have a homework assignment of book problems every week for Chem 325. Instead of turning these problems in, you will take an in-person quiz every Friday morning. The homework quiz problems will be very similar, but not identical to, the book problems.

3. In addition to the weekly homework quizzes, you will have an in-person final exam at the end of the semester. This exam will be cumulative, covering all the course material.

My Information and Schedule

Dr. Nathan Bowling nbowling@uwsp.edu
Office: CBB 442 Lab: CBB 436 Phone: 715-346-4253

Availability: I am available to help you with Chem 325 questions in any of the unshaded blocks below. During Chem 399/325 blocks, I encourage you to make appointments with me via email for 1-on-1 help with Chem 325. When I have no appointments scheduled during these times, I will be assisting my Chem 399 research students.

	Monday	Tuesday	Wednesday	Thursday	Friday
08:00	***Chem 325 Lab 01L1, 420/426***	Chem 399/325 Appointments	***Chem 325 Lab 01L2, 420/426***	Chem 399/325 Appointments	Chem 399/325 Appointments
09:00	***Chem 325 Lab 01L1, 420/426***	Chem 399/325 Appointments	***Chem 325 Lab 01L2, 420/426***	Chem 399/325 Appointments	Chem 399/325 Appointments
10:00	***Chem 325 Lab 01L1, 420/426***	***Chem 325 Lec 01, CBB 105***	***Chem 325 Lab 01L2, 420/426***	***Chem 325 Lec 01, CBB 105***	***Chem 325 Lec 01, CBB 105***
11:00	Chem 399/325 Appointments	Chem 399/325 Appointments	Chem 399/325 Appointments	***Chem 106 Lab 02L4, CBB 236***	Chem 399/325 Appointments
12:00	Chem 399/325 Appointments	Chem 399/325 Appointments	Chem 399/325 Appointments	***Chem 106 Lab 02L4, CBB 236***	Chem 399/325 Appointments
13:00	Chem 399/325 Appointments	Chem 399/325 Appointments	Chem 399/325 Appointments	***Chem 106 Lab 02L4, CBB 236***	Chem 399/325 Appointments
14:00	Chem 399/325 Appointments	**School Meeting**	Chem 399/325 Appointments	Chem 399/325 Appointments	**Meeting or Seminar**
15:00	***Preparation and Grading***	**Office Hour CBB 442**	***Preparation and Grading***	**Office Hour CBB 442**	***Preparation and Grading***
16:00	***Preparation and Grading***	***Preparation and Grading***	***Preparation and Grading***	***Preparation and Grading***	***Preparation and Grading***

Description of the Course

Unless a modality change is mandated by UW-System or UWSP, or a circumstance would arise where I became incapable of teaching in-person, Chem 325 lecture will be taught entirely in-person for the fall 2021 semester. Students are expected to attend every in-person lecture and laboratory meeting. Students should immediately communicate any absences due to illness, quarantine, emergency, or University-sanctioned event (e.g. athletic competition) and should expect that any make-up opportunities will be in-person. Quizzes will be given at the beginning of class every Friday. Because the purpose of the quizzes is to test your familiarity with and mastery of the assigned book problems, quiz times will be limited to 25 minutes or less.

CHEM 325. Organic Chemistry. 4 cr. (Two semester course)
Prereq: Chem 106, 117, or equivalents (grade higher than D is required).
The structures of the molecules that make up our world are not insignificant. In fact, it is the structure that determines the function and properties of a given molecule. This first semester of organic chemistry will serve as an introduction to organic structure and function beginning with Lewis structures, resonance forms, atomic orbitals and molecular orbitals. Students will learn how different properties, such as boiling point, melting point, and acidity can arise from different organic functional groups. We will study the conformations of linear alkanes, cycloalkanes, and the stereochemistry of organic molecules to better understand the three-dimensionality of organic molecules. Students will learn how to identify molecules using modern instrumentation such as gas chromatography (GC) as well as infrared (IR) and nuclear magnetic resonance (NMR) spectrometers. Finally, students will be shown how organic structure relates to reactivity in substitution, elimination, and addition reactions.

Required Resources
Text: "Organic Chemistry", Fifth Edition by Smith. McGraw-Hill 2017. (ISBN-13: 978-0-07-802155-8). Available from text rental.
Lab Manual: posted on Canvas page.
LabFlow Software: instructions for signup are posted on Canvas page.

Highly Recommended – copies available in library and chapter-by-chapter on Canvas
Student Study Guide/Solutions Manual to accompany Smith Organic Chemistry. Fifth Edition. McGraw-Hill 2016. (ISBN: 978-1259637063). Available on three-hour reserve at the library.

Semester Schedule:

Week		*Tues.*	*Thurs*	*Fri*
#1	Sept. 2 – Sept. 3		Start Quiz Guide #1 (Ch. 1)	
#2	Sept. 7 – Sept. 10	Finish Quiz Guide #1 (Ch. 1)		*Quiz #1*
#3	Sept. 13 – Sept. 17	Quiz Guide #2 (Ch. 2)		*Quiz #2*
#4	Sept. 20 – Sept. 24	Quiz Guide #3 (Ch. 3 and start 4)		*Quiz #3*
#5	Sept. 27 – Oct. 1	Quiz Guide #4 (end of Ch. 4 and start 5)		*Quiz #4*
#6	Oct. 4 – Oct. 8	Quiz Guide #5 (Ch. 13 and 14)		*Quiz #5*
#7	Oct. 11 – Oct. 15	Quiz Guide #6 (end of Ch. 5 and Ch.6)		*Quiz #6*
#8	Oct. 18 – Oct. 22	Quiz Guide #7 (Ch. 7)		*Quiz #7*
#9	Oct. 25 – Oct. 29	Quiz Guide #8 (Ch. 8)		Quiz #8
#10	Nov. 1 – Nov. 5	Quiz Guide #9 (start Ch. 9)		*Quiz #9*
#11	Nov. 8 – Nov. 12	Quiz Guide #10 (end Ch. 9 and start Ch. 10)		*Quiz #10*
#12	Nov. 15 – Nov. 19	Quiz Guide #11 (end Ch. 10)		*Quiz #11*
#13	Nov. 23 – Nov. 26	Quiz Guide #12 (Ch.11)	Thanksgiving Break	
#14	Nov. 29 – Dec. 3	Finish Quiz Guide #12 (Ch. 11)		*Quiz #12*
#15	Dec. 7 – Dec. 11	Review for Final Exam		No Quiz
#16	Dec. 14 – Dec. 18	Final Exam: Wednesday, Dec. 15th; 12:30 pm – 2:30 pm		

Grading Breakdown:

Item	*Points*
Lab Points	110 pts
Homework Quizzes (12 x 30 pts each)	360 pts
Final exam (100 pts)	100 pts
	570 pts

Typical Grade Cut-offs for Lecture: [100-90% = A or A-], [89-80% = B+, B, or B-], [79-70% = C+, C, or C-], [69-60% = D+ or D], [< 60% = F]. *You must earn a minimum of 60% (276/460 pts) of the lecture exam and quiz points to receive a passing grade in the course, regardless of how you perform in lab.*

Descriptions of major responsibilities:

Weekly Homework Quizzes: You will be given a quiz guide every week on Canvas that tells you what you should be reading and what problems you should be working. You should start working these problems early each week so that you can ask for assistance before the Friday quiz. You will have 25 min or less to complete each Friday quiz. Each quiz question is modelled after an assigned homework question. Make sure you understand each homework problem well enough that you can solve it without assistance.

Course Learning Objectives

Students who succeed in the course will be able to:

- ✓ Predict the physical properties and chemical reactivity of simple organic molecules
- ✓ Propose products and reasonable mechanisms for chemical reactions based on a fundamental understanding of organic chemistry
- ✓ Propose efficient syntheses of simple organic molecules
- ✓ Use a variety of characterization data to identify organic compounds
- ✓ Safely prepare, purify, and characterize organic compounds and appropriately document and present their laboratory work

How to succeed in my organic chemistry course:

- ✓ Engage in every lecture experience. Take notes and work practices problems as they are introduced. Ask questions if you have them.
- ✓ Read all of the suggested text carefully, making a concerted effort to *understand* the material. Work through the sample problems as you go.
- ✓ Do all of the suggested problems in a separate notebook designated for this purpose. Show your work and do not look at the book, your notes, or an answer key until after you are done. After checking your answers, re-read the sections with material that gave you the most trouble. If that does not clear things up, schedule a visit with me.
- ✓ Do not try to memorize your way through this course! Success in organic chemistry requires you to understand a few major concepts and several exceptions and caveats. **You will be tested on your understanding of the material, not your ability to memorize.**
- ✓ Commit at least 10 hours by yourself per week to studying/learning organic chemistry outside of class time.
- ✓ Stop me in lecture if you don't understand something.
- ✓ Come to virtual office hours whenever you need a topic cleared up. If my office hours don't work for you, feel free to schedule an appointment via e-mail or on Canvas.

Face covering and distancing

Face Coverings:

- At all UW-Stevens Point campus locations, the wearing of face coverings is mandatory in all buildings, including classrooms, laboratories, studios, and other instructional spaces. Any student with a condition that impacts their use of a face covering should contact the Disability and Assistive Technology Center to discuss accommodations in classes. Please note that unless everyone is wearing a face covering, in-person classes cannot take place. This is university policy and not up to the discretion of individual instructors. Failure to adhere to this requirement could result in formal withdrawal from the course.

Other Guidance:

- If you are not feeling well or believe you have been exposed to COVID-19, do not come to class; email your instructor and contact Student Health Service (715-346-4646).
    - As with any type of absence, students are expected to communicate their need to be absent and complete the course requirements as outlined in the syllabus.
- Try to maintain a distance from other people as much as possible.
- Wash your hands or use appropriate hand sanitizer regularly and avoid touching your face.
- Please maintain these same healthy practices outside the classroom.

Tutoring

- If you need extra assistance with Chem 325, please contact me first. I will be happy to meet with you to help you with concepts

- If you decide to use the resources provided by the tutoring center, I strongly advise that you study the material first, then ask for assistance. Tutors cannot learn the material for you, but they may be a good resource for clearing up confusing topics.

The Tutoring-Learning Center (TLC) offers **FREE** tutoring to support you in your STEM classes. The tutors are UWSP students who have done well in their classes and who are here to share their successful study habits and content knowledge to help others succeed. Discussing concepts and practicing problems together clarifies and solidifies knowledge, and the tutors are eager to study with you. If you have questions about the schedules or would like to make an appointment, please visit the TLC in ALB 018 (library basement), email (tlctutor@uwsp.edu), or call (715) 346-3568.

STEM Tutoring – Fall 2021

What	Location	Schedule	Cost
STEM Drop-In Tutoring	CBB 190	No appointment needed – stop by when tutors are available: https://www.uwsp.edu/tlc/Pages/dropInTutoring.aspx.	Free
STEM One-on-One Tutoring	ALB 018	By appointment. Visit ALB 018 (library basement) to make a request or complete online request form here: https://www.uwsp.edu/tlc/Pages/request-math-science-tutoring.aspx.	Free