

**CHEM 348 Organic Chemistry II
Spring 2017**

Instructors:

Dr. Greg Crouch, Fulmer 414
gcrouch@wsu.edu

Prerequisite: A letter grade of C or better in Chem 345.

Contacting Instructors and TAs: Use your official WSU email account when contacting instructors or TAs. Please put "chem 348" in the subject field of the email. TA email addresses are located on the main menu of the course homepage.

Office Hours:

- Dr. Crouch: M/W/F 11:00-12:00 pm **and** by email appointment. When emailing for an appointment, provide several times that are open in your calendar. For example: "I would like to meet with you. My free times are Monday from 2-4pm, Wed from 9-10, and Thur from 12-2."
- TAs office hours are held in Fulmer 401 as well as CUE tutoring center. A schedule will be posted on the course website as well as on the door to Fulmer 401 no later than the first week of class.

Class Meeting:

- Section 1 MWF 10:10-11:00 Todd 216

Course Website: All course material is on our website at:

- <http://learn.wsu.edu>
- In addition, we have a course Facebook group page at:
<http://www.facebook.com/groups/chem.348>

Required Course Materials:

345 Continuing Students. Students in 348 who have purchased access for 345 will not need to enter an access code this semester. Log into Blackboard and enter the OWLv2 credentials used in the previous term. If prompted please enter the code purchased, or exchanged, for 345. If there are any issues related to access please go [here](#) for customer support, or you can contact support directly at 1-866-267-4986.

New Students and students who took Chem 345 prior to fall 2016. The least expensive option is to buy an OWL code for \$129.00 directly from the publishers using this link:

<http://www.cengagebrain.com/course/2052290>

This option costs \$129. If you chose this route, you can any used full-year organic chemistry as a reference but an ebook is included with the route above.

Finally, a model kit is required. While there is a kit at the Bookie for \$26, you may also purchase one for \$15 from:

http://www.darlingmodels.com/Individual-Orders-Molecular-Model-Kits/KIT-3-ISBN-978-09648837-4-1-MOLECULAR-VISIONS-Organic-Kit/prod_7.html

Model kits can also be purchased on eBay or Amazon for a reasonable price. It is essential you have a model kit before the first exam.

In summary the cheapest option is \$129 + \$10 (approximate used book) + \$15 (model kit) \cong \$154.

Course Objectives and Description: Students completing Chem 348 will be able to

- 1) Rationalize molecular reactivity based on functional groups,
- 2) Develop abstract reasoning skills sufficient to preform synthesis and mechanism type questions in Chem 348.
- 3) Extend problem solving skills to a small group learning community.

Couse Description

This course builds on the functional group/synthetic approach introduced in Chem 345 with a focus on synthesis and mechanism. In addition to lecture, Chem 348 provides an opportunity to develop your chemical problem solving skills through small group workshops. These workshops have limited enrollment and are run by senior teaching assistants. By participating in these workshops, you will learn useful ways of solving synthesis and mechanism problems that directly relate exams. There will be 12 workshops throughout the semester. In Chem 348, 70% of your grade is based on exams, 10% on homework, and 20% on attendance and participation in the workshops.

Workshops

There will be 12 workshops throughout the semester where attendance is required. In these workshops you will be provided with problem sets that cover important nomenclature, structures, reactions, and mechanisms that you will be responsible to learn. These problem sets and keys will be posted on the course website the following week. If you come to office hours for help on these problem sets, you must bring your work. In other words, do not bring blank pages and ask me or a TA to solve the problem. This does not help you prepare for exams.

Student Learning Outcomes:

1. Use chemical acid/base reactivity to predict chemical equilibrium.
2. Describe chemical reactivity in terms of organic functional group chemistry, including functional group transformation.
3. Interpret structural changes within a chemical framework considering bond making and bond breaking.
4. Propose reasonable mechanisms that convert starting materials to product
5. Interpret stereochemical data that informs a mechanistic hypothesis.
6. Plan an organic synthesis using a retrosynthetic approach based on known chemical reactions.
7. Work as an effective team member of a problem solving small group.

Assignments & Grading Policy: This course will be graded on the basis of homework, two midterm exams, a comprehensive final exam, and workshop participation.

Midterm exams: Two hourly exams will be administered to assess subject mastery. These exams are not multiple choice. Prior semester exams are provided on the course website. The second midterm exam (as well as the final) are comprehensive. Each midterm exam is 20% of your grade. If you miss a midterm exam, your final will count at 50%

Final exam: A two-hour mandatory final exam will be given at the end of the course. The final exam is worth 30% of your grade.

Homework: OWL online homework is used in this course and is worth 10% of your grade.

Workshops: Weekly problems solving workshops are worth 20% of your grade. These workshops are graded on attendance and participation.

Assessment: Student Learning Outcomes 1 -6 will be assessed with homework, lecture participation, and hand-graded exams. We do not use multiple choice exams so we can assign partial credit for reasonable answers Student Learning Outcome 7 will also be assessed by attendance and participation in the 12 required workshops.

Grade Scale: This course will use the following grade scale. Please note this scale may change slightly from year-to-year.

A	92-100	B	83-85	C	72-76	D	61-64
A-	89-91	B-	80-82	C-	69-71	F	<60
B+	86-88	C+	77-79	D+	65-68		

Test Schedule: All tests and exams are evening exams. If you off campus due to a university sponsored event, you may arrange for an academic counselor to proctor the exam. You must make these arrangements within the first two weeks of the semester. If you miss an hourly exam, the final exam will count at 45%.

- Test 1, Thursday February 16th from 8:00 to 10:00 pm in Todd 116 & Fulmer 226
- Test 2, Thursday March 30th from 8:00 to 10:00 pm in Todd 116 & Fulmer 226
- Final Exam, Wednesday May 1st from 7:00 to 10:00 pm, location TBD

Test Policy and Regrades: Bring only your student ID, a model kit, and pencils to the exams. You will be provided scratch paper. You may not bring any electronic or internet connected device to the exam. Doing so will result in a failing grade and be interpreted as a breach of academic integrity and will be reported. Once exams have been graded, you may pick them up from the stockroom. Look over the exam carefully and make sure the points have been added correctly. If you find an error or have a question about the grading of the exam, return it to the stockroom attendant with a regrade request form attached (you can get these from the stockroom or on the course website) – we will not re-grade an exam once you remove it from the stockroom. Be very clear when completing the regrade form. For example, “there is an error in my total points” or “on question 2, I drew the correct intermediate structure....” Avoid requests that include “I feel as if I deserve more points.”

Lecture Schedule

<i>Week</i>	<i>Starting</i>	<i>Monday</i>	<i>Tuesday</i>	<i>Wednesday</i>	<i>Thursday</i>	<i>Friday</i>
Week 1	January 9	Lecture 1		Lecture 2		Lecture 3
Week 2	January 16	MLK Day		Lecture 4		Lecture 5
Week 3	January 23	Lecture 6		Lecture 7		Lecture 8
Week 4	January 30	Lecture 9		Lecture 10		Lecture 11
Week 5	February 6	Lecture 12		Lecture 13		Lecture 14
Week 6	February 13	Lecture 15		Review	Test 1	no lecture
Week 7	February 20	President's Day		Lecture 16		Lecture 17
Week 8	February 27	Lecture 18		Lecture 19		Lecture 20
Week 9	March 6	Lecture 21		Lecture 22		Lecture 23
	March 13	spring break				
Week 10	March 20	Lecture 24		Lecture 25		Lecture 26
Week 11	March 27	Lecture 27		Review	Test 2	no lecture
Week 12	April 3	Lecture 28		Lecture 29		Lecture 30
Week 13	April 10	Lecture 31		Lecture 32		Lecture 33
Week 14	April 17	Lecture 34		Lecture 35		Lecture 36
Week 15	April 24	Course Review		Course Review		Course Review
Finals	May 1	Final Exam 7-10 pm				

Lecture Topics: Given that we will only cover selected sections in the required textbook, lecture slides will be available in advance of lecture on the course website. You may use these to orient lecture with readings from the textbook.

Students with Disabilities: Reasonable accommodations are available for students with a documented disability. If you have a disability and need accommodations to fully participate in this class, please either visit or call the Access Center (Washington Building 217; 509-335-3417) to schedule an appointment with an Access Advisor. All accommodations MUST be approved through the Access Center. For more information contact a Disability Specialist

Academic Integrity: You are encouraged you to work with classmates on assignments, however, each student must turn in original work. No copying will be accepted. Falsified lab data is also a violation of academic integrity. Students who violate WSU's Standards of Conduct for Students will receive an F as a final grade in this course, will not have the option to withdraw from the course, and will be reported to the Office Student Standards and Accountability. Cheating is defined in the Standards for Student Conduct WAC 504-26-010 (3). It is strongly suggested that you read and understand these definitions. In addition, if during an exam you use an internet connected or other electronic devices, you will fail the exam and be reported as described above.

Safety Statement: Washington State University is committed to enhancing the safety of the students, faculty, staff, and visitors. It is highly recommended that you review the Campus Safety Plan (<http://safetyplan.wsu.edu/>) and visit the Office of Emergency Management web site (<http://oem.wsu.edu/>) for a comprehensive listing of university policies, procedures, statistics, and information related to campus safety, emergency management, and the health and welfare of the campus community.