

WEST VALLEY COLLEGE
CHEMISTRY DEPARTMENT
Fall 2011

COURSE TITLE

Chemistry 12A, Organic Chemistry

INSTRUCTOR

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OFFICE HOURS

M: 11:45-12:30 T: 11:45-12:30 W: 11:45-12:30 Th: 11:45-12:30 SM19A

MEETING TIMES

Lecture: M-W 12:30-1:55 pm, SM33

Lab: M-W 2:05-5:15 pm, SM20

REQUIRED MATERIALS

- 1) Wade, Jr., Organic Chemistry, 7th Edition
- 2) Solutions Manuel for textbook problems.
- 3) Pavia, et. al., Organic Laboratory Techniques. A Microscale Approach, 4th Edition.
- 4) Molecular Model Kit for Organic Chemistry, Prentice Hall
- 5) Experimental Research Notebook, Jones and Bartlett Publishers (Bookstore)
- 6) Safety Goggles (Bookstore; if purchased elsewhere, must be approved by your instructor)
- 7) Scientific calculator, **Stapler**

Optional Materials

Montana and Buell, Organic Reaction Mechanisms, CD-ROM.

Lab coat, latex gloves.

Grading Scheme

| <u>Minimum Course Score</u> | <u>Grade</u> | Course score formula |
|-----------------------------|--------------|---------------------------------------|
| 80% | A | $\frac{(3*M + F + L + HW)}{6.85} = G$ |
| 70% | B | |
| 60% | C | |
| 50% | D | |

| | | Possible Points |
|--------------------------|-----------------------------------|-----------------|
| | M= Average of three Midterm exams | 300 |
| Advanced Prep Work 2 pts | F= Final exam score | 200 |
| Lab 8 pts | L= Laboratory score | 125 |
| | HW= Homework | 60 |
| | G= Grade in the course | |

Total Points Possible=685

Lecture- Each of three Midterm exams will be worth 100 points, homework will be worth 60 pts (3 homeworks, each 20pts), and the comprehensive final exam will be worth 200 points. The homework assignments will handed out separately in class and the problems in the book will not be collected or graded. If a student is absent during any exam, he/she will receive a grade of zero. At the discretion of the instructor, a makeup exam may be allowed for an urgent medical or legal situation which prevents a student from attending class. In such cases, all of the following requirements will apply: 1) Student must present documentation of the reason for absence (letter from doctor or court official, including address and phone number) to the instructor on the day student returns to school, 2) Exam must be made up within two days of missed exam, 3) Only one make-up exam is allowed per semester. Unethical behavior of any kind will result in the student failing that assignment. Work must be shown on all exams and quizzes to receive credit.

Laboratory- **All assigned laboratories and worksheets must be completed in order to pass the course.** A problem-solving assignment or worksheet is considered a lab experiment and must be completed before leaving lab. Lab reports are due on the next lab day and are due within the first five minutes of the scheduled lab period. If a lab report is turned in late it will be penalized twenty percent per day. For all laboratory experiments, the advance study assignment sheet must be completed prior to the beginning of the lab period. Late study guides will be penalized the same as lab reports. **Make-up labs will not be permitted.** If you are unable to complete an experiment from start to finish during the week that is scheduled, you may satisfy the requirement for that experiment by

completing and turning in suggested homework problems. The student must discuss each make up assignment with the instructor prior to beginning the make up work. The make up problems will be due within two weeks of the missed lab. If a second experiment is missed for any reason, you will automatically be dropped from the class with a failing grade. If two lab reports are turned in with identical data each student will receive a zero for that lab.

Attendance- Attendance is required in all labs. Students are expected to attend all classes. It is the student's responsibility to officially drop the class if they wish to. Failure on the part of the student to do so will result in a failing grade. All students (officially registered, dropped, or withdrawn) must check out of the lab before the end of the semester (last lab day). Lab check out is completed through the stockroom.

Emergency- In case of an emergency, such as a earthquake or fire, a specific location will be selected as a meeting point. Under any circumstances, do not leave the campus unless authorized to do so.

Disabilities- West Valley College makes reasonable accommodations for persons with documented disabilities. Students should notify the Disability and Educational Support Program (DESP) at 741-2010 of any special needs.

Success- To be successful in a chemistry course requires diligence and taking advantage of the resources available.

- 1) Go to office hours.
- 2) Go over in detail past mistakes on homework and exams.
- 3) Read ahead and prepare for lecture.
- 4) Attend class on a regular basis.
- 5) Do all assigned homework and do as many unassigned problems as possible.
- 6) Study hard, at least 8-14 hours per week.
- 7) Form study groups.

Chemistry 12A: Lecture Schedule M-W 12:30-1:55 pm

| <u>Week</u> | <u>Date</u> | <u>Day</u> | <u>Chapter</u> | <u>Sections</u> | <u>Topic</u> |
|-------------|-------------|------------|--|------------------|--|
| 1 | 8-29 | M | Intro,1 | 4-8 | Introduction and Review |
| | 8-31 | W | 1 | 9-10 | |
| 2 | 9-5 | M | HOLIDAY | | |
| | 9-7 | W | 1 | 11-14 | |
| 3 | 9-12 | M | 2 | 1-8 | Structure and Properties of Organic Molecules |
| | 9-14 | W | 2 | 9-14 | |
| 4 | 9-19 | M | 3 | 1-8 | Alkanes |
| | 9-21 | W | 3 | 9-16 | |
| 5 | 9-26 | M | Nomenclature HW #1 | | |
| | 9-28 | W | Nomenclature | | |
| 6 | 10-3 | M | EXAM #1 Chapters 1,2,3,Nomenclature | | |
| | 10-5 | W | 5 | 1-6 | Stereochemistry |
| 7 | 10-10 | M | 5 | 7-10 | |
| | 10-12 | W | 5 | 11-16 | |
| 8 | 10-17 | M | 4 | 1,2,5,9-11,14,15 | Chemical Reactions Substitution and Elimination |
| | 10-19 | W | 6 | 1-8 | |
| 9 | 10-24 | M | 6 | 9-21 | Alkenes |
| | 10-26 | W | 7 HW#2 | 1-7 | |
| 10 | 10-31 | M | 7 | 8-11 | |
| | 11-2 | W | EXAM #2 Chapters 4,5,6,7 | | |
| 11 | 11-7 | M | 8 | 1-5 | Reactions of Alkenes |
| | 11-9 | W | 8 | 6-10 | |
| 12 | 11-14 | M | 8 | 11-16 | Alkynes |
| | 11-16 | W | 9 | 1-3 | |
| 13 | 11-21 | M | 9 | 4-10 | Alcohols |
| | 11-23 | W | 10 | 1-6 | |
| 14 | 11-28 | M | 10 HW#3 | 7-9 | |
| | 11-30 | W | 10 | 10-12 | |

| | | | |
|----|-------|---|--|
| 15 | 12-5 | M | EXAM #3 Chapters 8,9,10 |
| | 12-7 | W | Review |
| 16 | 12-12 | M | COMPREHENSIVE FINAL EXAM 11:50-1:50 |

Chemistry 12A Laboratory Schedule

| <u>Week</u> | <u>Date</u> | <u>Day</u> | <u>Lab</u> |
|-------------|-------------|------------|--|
| 1 | 8-29 | M | Lab Safety, Green Sheets, (Read pg 558-580 in Pavia) |
| | 8-31 | W | Notebook Preparation |
| 2 | 9-5 | M | HOLIDAY |
| | 9-7 | W | Check in, EXP 2 part A-D No E |
| 3 | 9-12 | M | EXP 3 Part A and B |
| | 9-14 | W | Exp 4, A-C, No D or E |
| 4 | 9-19,21 | M,W | EXP 8 Acetylsalicylic Acid |
| 5 | 9-26,28 | M,W | EXP 55 A separation and Purification Scheme |
| 6 | 10-3,5 | M,W | EXP 12A Isolation of Caffeine from Tea |
| 7 | 10-10,12 | M,W | EXP 11 TLC Analysis of Analgesic Drugs |
| 8 | 10-17,19 | M,W | EXP 25B -Methylcyclohexene |
| 9 | 10-24,26 | M,W | EXP 20 Reactivities of Some Alkyl Halides |
| 10 | 10-31,11-2 | M,W | EXP 26 Phas-transfer Catalysis |
| 11 | 11-7,9 | M,W | EXP 16 Isolation of Chlorophyll and Carotenoid Pigments from Spinach |
| 12 | 11-14,16 | M,W | PROJECT |
| 13 | 11-21,23 | M,W | PROJECT |
| 14 | 11-28,30 | M,W | EXP 13B Isopentyl Acetate |
| 15 | 12-5 | M | Lab Check-out |
| | 12-7 | W | Review |

Suggested Homework Problems

Wade, 7th edition

| <u>Chap</u> | <u>Problems</u> |
|-------------|--|
| 1 | 2,3,5-11,15,17-19,23-29,31,34,36-38,40-52 |
| 2 | 3-11,14,15,17,18,20-22,27-30,34-41 |
| 3 | 1-31,33,40-45,47,48 |
| 4 | 1-4,15,19,22,24,25,29-33,35-37,41,44,46 |
| 5 | 2,3,5-8,12,14-23,26-28,30,31,33,35-37,39 |
| 6 | 8-10,12,14-19,21-40,44-48,51,53,54,56,59-64,66,68,70-74 |
| 7 | 3,9,11-19,21-23,25,28,29,37,38,40-46,49-51,53-55,57 |
| 8 | 1-30,32-37,40,45,47-50,58-64,66-68,70 |
| 9 | 1,5,7-21,23-25,31,33-42 |
| 10 | 5-20,22-26,34-44,47,49,51,52 |
| 11 | 2,3,5,6,9-13,15-17,19-23,25,26,27,31,33-36,38,40-49,51-60,47-49,51-60,64 |

Nomenclature

Units 3-3, 6-2, 7-4, 9-2, 10-3, 14-3, 18-3, 19-2, 20-2, 21-2

Problems

| | |
|----|---------------------------------|
| 2 | 20-22,42,44 |
| 3 | 2-4,6,7,14-17,30,34,35,37-39,41 |
| 6 | 1-3,42,43 |
| 7 | 5-8,32,33,35,36 |
| 9 | 2,27-30 |
| 10 | 1-4,28,31-33 |
| 14 | 4,6,30-32 |
| 16 | 24,28 |
| 18 | 1,39 |
| 19 | 2,3,36 |
| 20 | 1,2,26-28 |
| 21 | 1,44 |