

ORGANIC CHEMISTRY LAB I (CH 301L-01)

Fall 2018 Course Outline

Department of Natural Sciences and Environmental Health, Mississippi Valley State University
(1 Credit hours course)

Instructor: Bhanu Priya Viraka Nellore, Ph.D. (Dr. Bhanu)
Office location: FLW 208C
Phone: (662) 254-3387
E-mail: b.virakanellore@mvsu.edu

Class Meeting Time / Location: T- 08:00 - 10:40 a.m. / FLW235

Office Hours: MW- 08:00-08:50a.m. 12:00-12:50 p.m. 2:00-02:50 p.m.; TR- 11:00-12:50 p.m.;
Other times by appointment only.

Prerequisites: CH 111L and CH 112L

Course Description:

CH 301L is designed to improve student's cognitive skills. It requires students to prepare in advance for the experiments by reading the background information, and the laboratory procedure, and by working pre-laboratory problems. Students develop skills to manipulate the laboratory equipment, record observations and data to present data in the form of tables, graphs, figures, and to interpret the experimental data. In the post-laboratory writing assignment students often critically analyze the concepts learned during laboratory period to novel situations. The sequence of the experiments was chosen to coordinate with the lecture material.

Student Learning Outcomes/Course Objective:

The general outcome goals are that students with synthetical and analytical skills that they find useful in future laboratory classes in Chemistry and other discipline, as well as other tasks that involve data management. A general summary of detailed list of lab topics is summarized on page 2. Most of the learning outcomes will be assessed by problems in which students must demonstrate their understanding. **It will be very difficult** to learn this science by "simply" memorizing different reactions without an understanding of the fundamental concepts that are the basis for these reactions.

Purpose:

Employing Mississippi Valley State University's Holistic Transfer Model (HTM), CH 301L contributes to education and training of Holistic Transformers. It is our intention to not only teach fundamental chemistry relationships but also to develop the thinking processes of our students so that they will gain various insights into the workings of nature. These skills will transform the student into lifelong learners who can build upon accumulated knowledge and understandings. Additionally, these students can become facilitators who stimulate the natural

curiosity of others. In doing so, CH 301L develops the skills and scientific background required of teachers of students in public schools by building upon prior knowledge and skills developed in preceding coursework presented by the Department of Sciences and Environmental Health, and by the College of Education.

Pre-Laboratory preparation:

The student **MUST** read the experiment and be prepared before coming to the lab in order to perform the lab experiment.

Each laboratory period consists of:

- You **must arrive on time in order to do experiment.**
- **Data Sheet:** Students are required to record his/her data as they proceed with the experiment. All data must be entered into this sheet and finished by the **end of the lab period**.

Course Content and Tentative Time Line:

1. Lewis dot structures of elements
2. Lewis dot structures of compounds
3. Introduction to carbon compounds, Lewis dot, Dash formulae, and Bond line structures and molecular formulae of Alkanes
4. Introduction to carbon compounds, Lewis dot, Dash formulae, and Bond line structures and molecular formulae of Alkenes
5. Introduction to carbon compounds, Lewis dot, Dash formulae, and Bond line structures and molecular formulae of Alkynes
6. Stereochemistry and Molecular models
7. Melting and Boiling points of few organic compounds
8. Recrystallization
9. Few reactions
 - a. Preparing Cyclohexene from cyclohexanol (Substitution Reaction)
 - b. Preparation of dibenzyl acetone (Elimination Reaction)
 - c. Adding Br_2 , KMnO_4 to the double bond (Addition reaction)

Week 7

Midterm Week

Week 14

Fall Break/ Thanksgiving Break

Week 15

Final Exam

Student Evaluation / Grading Scale:

The grade for an experiment is based on 1) Data sheet and 2) Lab report. There will be a mid-term and a comprehensive final exam at the end of the semester. Exams are mandatory. Students are expected to submit their assigned work on or before the deadline. Whoever submits the assigned work after the deadline is not accepted. The midterm and final exams will be announced in advance in the class.

Data Sheets/Exercise	5 X 100	= 500 points
Lab Report	1 X 100	= 100 points
Mid Term	1 X 100	= 100 points
Final Exam	1 X 100	= 100 points
Attendances	1 X 25	= 25 points
Professor personal assessment (2 nd half of semester)	<u>1 X 25</u>	<u>= 25 points</u>
Total		= 850 points

The grading scale is as follows

A = 89 to 100%

B = 77 to 88.9%

C = 66 to 76.9%

D = 55 to 65.9%

F = Below 55%

Makeup policy:

There will be **no makeup Labs** or makeup worksheet assignments for this class. Exceptions to this policy must be cleared in advance (only valid University related absences) and/or must be due to certifiable emergencies. If the student misses a lab, the experiment can be made up only in the same week and with the permission of the instructor in another section. Otherwise, the student will be responsible for the material covered in that lab. Makeup exams will not be given to students before the class has taken the exam.

Attendance Policy:

Perfect attendance will be rewarded with 25 points of credit. One point will be deducted for every unexcused absence from 25 points. Be sure to sign the attendance sheet each day. Lab room door will be locked at 08:10 a.m. Students at Mississippi Valley State University must fully commit themselves to their program of study. One hundred percent (100%) punctual class attendance is expected of all students in all scheduled classes and activities. When, for any reason, students are absent from class, it is their responsibility to present to the instructor as soon as possible (and not later than one day from the date of return) an official excuse for their absence. Any absence for which a student does not provide written official excuse is counted as an unexcused absence. Unexcused absences (e.g. 3 times for three-hour semester hour course) will be reported to the department chair and students must understand that “even with an official excuse of absence, students are responsible for the work required during their absence” during the class and exams.

Use of Technology:

Becoming a holistic transformer is facilitated by the use of technology. Scholarship and reflective thinking promoted by easy access to information that may include widely varying theories and knowledge bases related to an extensive array of scientific and educationally related subjects. The same is, of course, true for developing the habits of life-long learner and classroom facilitator. Therefore, the use of technology in various forms will be encouraged in preparing for classroom discussion, scientific inquiry, practical application exercises, and lesson-plan development. Such technology will include, though not be limited to

1. Computerized library searches for information using scientific and educational databases
2. Use of internet to perform in depth searches for information related to appropriate instructional methodology and materials for teaching students in science; and
3. Computer applications useful in instruction and in scientific applications (e.g., simulations, data and word processing).

Special Policies:

- **No cell phone** will be allowed. Please turn off the cell phone before entering the lab/class room (No Exception). If your phone rings during the class or exam, you will be asked to leave the room, and you will be treated as an absent student. A student caught using a cell phone in class room or on an exam will receive zero points and considered absent for that exam/class and will be referred to the Department Chair/Dean of Students' office for appropriate action.
- **No breaks during the exam/quiz. No exceptions. A student can leave the class-room only after returning the exam/quiz.**
- **Intellectual Honesty:** Students are expected to follow principles of intellectual honesty. A student caught cheating on an exam or quiz will receive zero points for that exam or quiz and will be referred to the Dean of Students' office for appropriate action.
- Exam dates may be changed by the instructor. You must have to give the exam on the scheduled date.
- During the lab/class, side talking/negative behavior is strictly prohibited. The instructor has right to ask you leave the class room for any unacceptable attitude and you will be treated as an absent student.
- **Class e-mail List:** An email list will be used to notify you of special scheduling information, test schedules or other miscellany. (Eg: If I am sick and won't be able to hold class; when and where practice tests are to be held; if there are errors in one of the practice tests or book problems or in something I communicated in class, etc.)
Note: A test e-mail will sent to all the students. If you haven't received one, contact me.

Students with Special Needs

Mississippi Valley State University is committed to providing reasonable accommodations for students with a documented disability. If you feel you are eligible to receive accommodations for a covered disability (medical, physical, psychiatric, learning, vision, hearing, etc.) and would like to request it for this course, you must be registered with the Services for Students with Disabilities (SSD) program administered by University College. It is recommended that you visit the

Disabilities Office located inside the EMAP Computer Lab in the Technical Education (IT) Building to register for the program at the beginning of each semester. If you are determined to be eligible after your confidential consultation, you will be provided with a Memo of Accommodations that must be submitted to each of your instructors.

For more information or to schedule an appointment, please contact Mr. Billy Benson, Jr. via phone or email at 662-254-3005 or billy.benson@mvsu.edu.

Caveat:

The schedule and procedures in this course are subject to change at the discretion of the instructor.

Copyright Notice:

All handouts used in this course are copyrighted and may not be copied without my expressly granted permission. “Handouts” and “PowerPoint Presentations” include all materials generated for this class, which include but are not limited to syllabi, quizzes, exams, problems, in-class materials, review sheets, problem sets, or other materials. Tutors and tutoring services are expressly forbidden from copying any or all of these materials. Only students currently enrolled in the class may make a single copy of this material for their personal use.

Note: This document does not constitute a contract but a set of guidelines subject to change.