



Instructor:

Prof. Tarafa

Email/

Phone:

Office Hours:

Course Objectives and Description

CHM 1045L is the first half of the CHM 1045L – 1046L laboratory sequence for science, premedical science and engineering majors. This laboratory course's objectives are to introduce students to experiments that re-enforce/illustrate lecture topics and common laboratory techniques. The experiments performed will cover the following topics: physical and chemical properties and changes, density, stoichiometry, gravimetric analysis, volumetric analysis, electrolytes, chemical reactivity, spectrophotometric analysis, gas laws, and atomic spectra.

Pre-requisite: A grade of "C" or better in CHM 1025 or in high school chemistry

Co-requisite: CHM 1045 and MAC 1105 or a higher level math course

Detailed course competencies can be obtained from: www.mdc.edu/asa/popups/course_competencies.asp

Grading Policy, Required Materials, and Laboratory Schedule

The grading policy, required materials, and laboratory schedule are provided on a separate sheet.

Lab Reports

The following are general guidelines that will be used for grading your lab reports.

A numerical grade of 0 to 30 will be assigned for each lab report based on:

- *the correctness, completeness, and neatness of your report and exercises.* In the lab manual you will find that every experiment has a report form and exercises. The report and exercises must be done in ink. Any required graphs must be properly done and submitted with your report.
- *In addition, calculations must be provided with your report.* These calculations must be appropriately labeled, done correctly, and units must be included.
- *the accuracy of your experimental work.*
- *the use of the correct number of significant figures.*
- *the inclusion of a computer printout (if required) with the report form.* The computer program that you are to use to input your data is located in the computer courtyard inside the library.
- *the submittal of your lab report on time.* Written lab reports are to be turned in at the beginning of the next scheduled lab period. You will not be allowed to work on your lab report for the preceding week's experiment during lab time. *One point will be deducted for every day you turn in your lab report late. Lab reports, which are more than one week late, will not be accepted and a grade of zero will be recorded.*

Scientific Notebook

Appendix I in your lab text gives detailed instructions on how to keep a scientific notebook.

A numerical grade of 0 to 5 will be assigned for the notebook grade for each experiment. This grade will be determined on your instructor's directions of how to keep a notebook and on the quality of its contents.

Failure to follow any other specific directions or deadlines given by your instructor will lower your grade.

Instructor Evaluation

The instructor's 50-point grade evaluation will be based on your adherence to the following instructions. Failure to follow these instructions will lead to your expulsion (for safety violations) from the lab and/or an up to a 5-point deduction per infraction. If you are expelled from lab, you will have the option of completing the experiment during makeup week.

You are expected to:

- adhere to and follow the *General Safety Rules* on pages vii – x in your lab text. *One of these rules is that you wear safety goggles (glasses) at all times.* For safety reasons, students who fail to follow the safety rules may be expelled from lab.
- come to every *recitation and lab session*, arrive on time, stay until dismissed, and comport yourself properly. For safety reasons, students who miss any part of a pre-lab explanation may not be allowed to work during the lab period.
- prepare for each lab experiment by reading it thoroughly and having your notebook ready before coming to lab. Students who do not have their notebook prepared are not ready for lab and may not be allowed to work during the lab period.
- clean and return all glassware/equipment to its proper place at the end of your experiment and leave your work area clean. To make sure that the lab is left clean, the instructor may assign students to clean-up duty.

Academic Dishonesty

We encourage collegiality and collaboration in the laboratory setting; however, during examinations and lab practical exercises, this esprit de corps will not be tolerated. Academic dishonesty will be dealt with by the procedure and actions established in the *Students' Rights and Responsibilities Handbook* (see MDC website to download a copy).

Tests

There will be three tests given in this course in the recitation section. The coverage for these tests is given in a separate lab schedule. *Usually, roughly 70% of the test will be come from experimental calculations and exercises and roughly 30% will come from study sheet problems. Students who are absent for a test, will be given a makeup test during a certain scheduled date and time (see laboratory schedule). You can only makeup one test, unless other arrangements are made at the discretion of your instructor. An unexcused absence from an examination can result in an up to a fifteen-point deduction on your instructor evaluation grade.*

No programmable / graphing calculators, PDAs, cell phones, beepers, iPods, bluetooth devices, computers, etc. may be used on an examination.

Makeup Labs

You can make up **one** lab experiment during the makeup week (see lab schedule). You will only be given 80% credit on the report grade for any unexcused absence. Other missed labs will result in a grade of zero, unless other arrangements are made at the discretion of your instructor.

Additional Help

Please avail yourself of your instructor's office hours. Your instructor's office hours are posted on his/her office door (Rm 3291). Free tutoring is available in room 3326.

Drops and Incompletes

If you plan to drop CHM 1045L and receive a grade of "W" you must do so via the MDC website by the drop date. There will be no incompletes, "I", given in this course.

CHM1046L Laboratory Schedule (Fall 2016-1)



Chemistry
305.237.2492 Room 3291
<http://www.mdc.edu/kendall/chmphy>
Miami Dade College, Kendall Campus

M	T	W	R	F	S
22 Intro/14	23 Intro	24 Intro	25 Intro	26 Intro	27 Intro/14
29 Ex.14	30 Ex.14	31 Ex.14	1 Ex.14	2 Ex.14	3 Labor Day
5 Labor Day	6 Ex.14	7 Ex.14	8 Ex.14	9 Ex.14	10 Ex.14
12 Ex.11	13 Ex.11	14 Ex.11	15 Ex.11	16 Ex.11	17 Ex.11
19 Ex.3	20 Ex.3	21 Ex.3	22 Ex.3	23 Ex.3	24 Ex.3
26 Ex.16	27 Ex.16	28 Ex.16	29 Ex.16	30 Ex.16	1 Ex.16
3 Ex.16	4 Ex.16	5 Ex.16	6 Ex.16	7 Ex.16	8 Ex.16
10 Ex.16	11 Ex.16	12 Ex.16	13 Ex.16	14 Ex.16	15 Ex.16
17 Ex.16	18 Ex.16	19 Ex.16	20 Ex.16	21 Ex.16	22 Ex.16
24 Ex.16	25 Ex.16	26 Ex.16	27 Ex.16	28 Ex.16	29 Ex.16
31 Ex.17	1 Ex.17	2 Ex.17	3 Ex.17	4 Ex.17	5 Ex.17
7 HPLC	8 HPLC	9 HPLC	10 HPLC	11 Veteran's Day	12 HPLC
14 Ex.19	15 Ex.19	16 Ex.19	17 Ex.19	18 HPLC	19 Ex.19
21 Ex.20	22 Ex.20	23 Ex.19	24 Thanksgiving	25 Thanksgiving	26 Thanksgiving
28 Checkout	29 Checkout	30 Ex.20	1 Ex.20	2 Ex.19, 20	3 Ex.20
5 No Lab	6 No Lab	7 Checkout	8 Checkout	9 Checkout	10 Checkout

Key to Laboratory Objectives

Intro	Exp.	Ntkk.
Intro - Introduction / Lab Safety / Check In	-	-
Ex. 14 - Analysis of Soda Ash	50	5
Ex. 11 - Freezing Point Lowering	25	5
Ex. 3 - Thermodynamics	25	5
Ex. 16 - Cation Analysis (Also Read Appendix IV)	96	10
Ex. 17 - Hexacation Analysis	40	-
Ex. 19 - Chemical Equilibrium	30	5
Ex. 00 - HPLC Analysis will be sent via email	25	5
Ex. 20 - Equilibrium Constant of a Weak Acid	25	5

Test	In Recitation On or After	Experiment Coverage	Study Sheet Coverage	Points
#1	September 19	11 and 14	13, 14, 15, 16	100
#2	October 31	3 and 16	21, 22, 23, 24	100
#3	December 5	17, 19, 20, 00	25, 26, 27, 28	100

Makeup Tests (1 and 2) will be given, after the drop date, at the discretion of the instructor and only in cases of documented medical or legal emergencies. No makeups for test 3.

**Drop Date
Nov 1st (Tue)**

Required Laboratory Text and Materials:

- Laboratory Experiments in General Chemistry by Anthony J. Pappas and Larry E. Bray, 15th ed.
- Safety Goggles (Glasses), Composition Notebook, and Scientific Calculator (non-programming/non-graphing only)

Final Grades

Students can view their grades from the following MDC web site:
http://www.mdc.edu/college_wide/

Grading Policy

Your grade will be determined by your performance on submitted lab reports, lab tests, how well you keep your lab notebook, and an instructor evaluation. These categories will be broken down as follows:

	The grading scale will be no stricter than:	Points Needed
Lab Reports (10 @ 30 points each)	A 100 - 88 %	612
Lab Notebook (9 @ 5 points each)	B 87 - 75 %	521
Laboratory Tests (3 @ 100 points each)	C 74 - 60 %	417
Instructor Evaluation	D 59 - 50 %	348
Total Number of Points	F less than 50 %	less than 348

Deductions

From the 30 pts that each experiment is worth, a maximum of 10 pts will be deducted for lack of experimental accuracy.

The following table gives the maximum point deduction that will be incurred if the experimental accuracy for your unknown falls within the given numbers. For Experiment 6, there will be no deduction for lack of experimental accuracy.

Pt Deduction	(2) Density	(4) %BaCl ₂ •2H ₂ O	(5) %Cu	(7) %KClO ₃	(8) Mg	(9) MW	(10) EW (acid)	(13) %Fe
0	98	95	95	95	95	95	97	97
1	96	90	90	90	90	90	94	94
2	94	85	85	85	85	85	91	91
3	92	80	80	80	80	80	88	88
4	90	75	75	75	75	75	85	85
5	85	70	70	70	70	70	80	80
6	80	60	60	60	60	60	75	75
7	70	50	50	50	50	50	60	60
8	50	30	30	30	30	30	40	40
9	30	10	10	10	10	10	20	20
10	< 30	< 10	< 10	< 10	< 10	< 10	< 20	< 20

The grading for the remaining 20 pts of the report will be based on the following: formatting errors (sloppiness, not using ink, etc.), significant figure errors, calculation errors, showing no calculations, use of incorrect units or showing no units in calculations, graphing errors / omissions, lack / incompleteness / incorrectness of exercises, lack of computer printout, and computer input errors that are not reported. *For each of these errors, no more than 10 pts will be deducted.*

No more than 5 pts/wk will be deducted for the instructor evaluation grade, except for an unexcused absence from an examination. This can result in an up to 15 pt deduction in your instructor evaluation grade. Your instructor will notify you if your conduct is likely to result in a poor evaluation grade. Feel free to inquire about your instructor evaluation grade.