This laboratory course accompanies the CHM1410 General Chemistry II lecture course – you will receive a grade for each course independently. You are required to be enrolled in both courses; if you drop one course you must also drop the other. **Note that you must have obtained a C or better in CHM1310 in order to take this course. The Chemistry department will check these prerequisites and may drop you from this class without warning if these grade requirements are not met. This could affect your insurance and financial aid.**

**Information on the web**

Additional information (schedule, google policy (including pictures of acceptable and unacceptable eye wear)) and a detailed equipment guide for commonly used pieces of equipment may be found on the web at [http://www.eiu.edu/~eiuchem/GenChem/](http://www.eiu.edu/~eiuchem/GenChem/) You are strongly encouraged to explore this page. Numerous tutorials which review basic concepts (such as significant figures, exponential format etc.) as well as providing additional assistance for some of the experiments (e.g. net ionic equations, stoichiometry, graphing advice) can be found here and you are encouraged to utilize this valuable resource. It will be assumed that you have mastered these basic skills and you will experience difficulty in this lab if you are not proficient in these techniques – make sure you seek help with any questions you may have in these areas before it becomes a significant problem.

**Lab Manuals**

Read carefully the sections in the lab manual on general lab information, lab etiquette and safety. Review the equipment guide for useful additional information on the various experiments. Thoroughly read through the experiments and complete the pre-lab assignments before you come to the lab. This is of crucial importance in completing the experiments both correctly and on time. Poor preparation before the lab will always lead to poor in-lab performance. Seek help in advance if there are any aspects of upcoming labs that cause you difficulty or concern – coming into a lab well-prepared makes the lab experience more pleasant and much less stressful (you may even enjoy it!)

**General Information**

This course is a continuation of CHM1315 and you will utilize the basic laboratory skills and techniques that you learnt in that course (and hopefully still remember). There are two distinct types of experiment in this course – the first type corresponds to topics covered in lecture (and are found in the Experiment section of the lab manual). The second type is referred to as a “semi-micro qualitative analysis” (these experiments are listed in the Qualitative Analysis section of the lab manual). The latter experiments are a series of practical exercises in which you will learn how to identify cations and anions via characteristic chemical reactions and/or physical properties. **Note the order of the experiments in the attached schedule – the experiments are not carried out in the exact order that they appear in the manual:** the qualitative analysis experiments will be carried out in the middle of the semester.

**Attendance & Pre-lab Lectures**

Attendance is required in all labs on time. Expect to stay for the entire lab period. Failure to arrive on time to the lab periods will result in you missing any scheduled quizzes (see below). The pre-lab lectures contain important safety information and may also contain last minute changes to the experiment so it is vital you are present for this and that you pay attention; taking careful notes in pre-lab lecture is very useful and will provide you with additional helpful tips and information needed for the experiments. **Missing more than 5 minutes of the pre-lab discussion/lecture will mean you will not be allowed to perform the experiment (and will receive a zero for that experiment).** If you will miss a lab period for a legitimate reason (ill health, family emergency, university event etc.), be sure to contact me as soon as possible before the missed period. Make-ups will only be allowed for excused absences (those that are covered by a note from a doctor, team coach etc). Setting up make-up experiments is an inconvenience for stock room personnel and the instructor and so make-up labs will generally need to be done within a week of the missed experiment to minimize disruptions. If you miss lab and fail to notify me as requested or are absent for a non-legitimate reason, your absence will be considered unexcused (and cannot be made up) and you will receive a grade of zero for that lab. Please make an effort to contact me as soon as possible in the event of an emergency. Leaving early or returning late from a University holiday is not considered a legitimate reason for absence and work missed under these circumstances cannot be made up. **Note that you will receive a grade of F for this course if there are three or more unexcused absences from lab.**
The final grades for this course will be assessed as follows:

**Experiment / lab report:** 30 points (*13 labs)

**Quizzes & quiz dates:** 20 points (*5 quizzes) – Expts. (1, 2) – Sept. 13
(3, 4) – Sept. 27
(5, Group I) – Oct. 11
(Group II and III) – Oct. 25
(Group IV, anions, salt analysis) – Nov. 15

**Lab final:** 70 points (*1 final quiz) – Dec. 6

~70% from the completed data/report sheets (13 lab reports @ 30 points each)
~30% from in-class quizzes and the final quiz (5 quizzes @ 20 points each; 1 final quiz @ 70 points)

The final course grades will be based on the following scale (as a percentage of the total available points (560)):

- **A** 90-100%
- **B** 80-90%
- **C** 70-80%
- **D** 60-70%
- **F** <60%

The **data/report sheets** are included in the lab manuals and must be completed and handed in at the end of each completed lab. You must also answer any questions that are a part of this sheet. The following items will be assessed in the grading process so be sure that you address these points: (1) proper labeling of collected data and the clarity with which they are presented; (2) correct use of significant figures and units; (3) consistency of your results (do they match your conclusions?); (4) correctness of results (particularly applicable in the qualitative analysis where you will be identifying unknowns). Review the sections in your lab manual or text book dealing with uncertainties and significant figures if necessary and be aware that a neglect of significant figures in your final results will be heavily penalized. Grading schemes for the qualitative analysis portion of the course will be discussed later in the semester.

**Quizzes** will account for roughly 30% of your final grade. Consistently poor performance on quizzes (i.e. less than 75%) will therefore adversely affect your overall grade and indicate that you are not preparing adequately for each experiment. Quizzes will be given in the classroom at the start of the lab period (the dates for specific quizzes are given above) and will generally last 15-20 minutes. The quizzes will test your understanding of the basic theory and the background of the experiments you have carried out. Reading through your completed lab reports, text book and lab manuals and completing the pre-lab assignment will help you to prepare for these quizzes. Failure to arrive on time to the lab periods will result in you missing the quiz. No make-ups or extra time will be allowed for late arrivals.

Although the **pre-lab assignments** will not be collected or graded on a routine basis, they are a required part of the experiment preparation; however, they may occasionally be collected before lab for extra credit. It is essential that you do these assignments since they will prepare you for the upcoming experiment and enable you to much better utilize the time in lab. Bring your completed pre-lab assignments to lab so as you can refer to them to assist you in the experiment. If you have problems with completing these pre-lab assignments please seek help before the lab. Failure to do the pre-lab assignments will guarantee a poor performance in the lab itself and usually results in your experiment taking much longer.