4:021 Basic Measurements  
Fall Semester 2012

Instructor  
Professor Gary W. Small, 238 IATL, 335-3214, gary-small@uiowa.edu

Class Meeting  
Lecture: Tuesday and Thursday, 8:30 – 9:20; W228 CB  
Lab. Section I: Tuesday and Thursday, 9:30 – 12:20; E440 CB  
Lab. Section II: Tuesday and Thursday, 2:00 – 4:50; E440 CB

Office Hours  
During lab periods in E440 CB or Mondays 3:30 -5:00 pm in 238 IATL or by appointment.

Teaching Assistants  
Krysti Knoche, Sean Lehman, Thilina Jayarathne, Sulay Patel  
(Contact information and office hours will be posted on ICON)

Textbook  
Quantitative Chemical Analysis, 8th edition (2010); Daniel C. Harris, W. H. Freeman & Co.  
Handouts will also be provided on ICON.

Web Materials  
http://icon.uiowa.edu; 004:021:AAA Fall11 Basic Measurement

Course Objective  
The objective of this course is to expose the student to the theory and practice of basic measurements in chemistry. Major emphasis will be placed on titrations, standardization, calibration, error analysis, modeling, and graphical presentation of results.

Basic Course Schedule  
The course will be divided into lecture and laboratory sections. The basic principles of the experiments and the associated data analysis will be covered in lecture. Initial course material will focus on general procedures for analyzing and presenting data along with learning basic laboratory skills. Basic instrumental measurements are featured in later class assignments.
Policy on Class Attendance

Students are required to attend each laboratory session. Attendance at lecture is strongly encouraged and points in the grading scheme are allocated for lecture attendance. Missed laboratory sessions or exams can be made up only if the absence is excused. Examples of excused absences include those due to illness, mandatory religious obligations, official University activities, or unavoidable circumstances. Documentation must be provided to the instructor to support the reason for the missed laboratory session or exam. Failure to perform all laboratory experiments will result in a grade of incomplete for the course.

Students participating in University activities must provide a statement before the absence signed by a responsible official that specifies the dates and times the student will miss class. Authorized activities include participation in athletic teams, the marching band and pep band, debate teams, and other recognized University groups, as well as participation in University field trips, service with the National Guard, and jury duty.

Course Requirements / Grading Scheme

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Assignment</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Spreadsheet assignment</td>
<td>45</td>
</tr>
<tr>
<td>11</td>
<td>Laboratory performance on Experiments 1-11</td>
<td>110</td>
</tr>
<tr>
<td></td>
<td>• Notebook, 5 points each</td>
<td></td>
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<tr>
<td></td>
<td>• Laboratory work (efficiency, cleanup of work area, etc.), 5 points each</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Lab Reports (Experiments 1-5, 30 points each)</td>
<td>150</td>
</tr>
<tr>
<td>6</td>
<td>Lab Reports (Experiments 6-11, 50 points each, lowest score dropped)</td>
<td>250</td>
</tr>
<tr>
<td>27</td>
<td>Lecture attendance (2 points each, maximum of 45 points)</td>
<td>45</td>
</tr>
<tr>
<td>3</td>
<td>Exams (100 points each)</td>
<td>300</td>
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<tr>
<td></td>
<td><strong>Total Points</strong></td>
<td><strong>900</strong></td>
</tr>
</tbody>
</table>

Assignment of Grades

Grade assignments will be made on the basis of a curve of the total class distribution of points. Plus/minus grades will be given. The “A+” grade will only be given in an exceptional circumstance. The overall grade distribution will be consistent with the recommendations of the College of Liberal Arts and Sciences for intermediate-level courses (18% A, 36% B, 39% C, 5% D, 2% F).

Late Assignments

Assignments must be submitted on ICON by 5:00 p.m. on the specified due date. Late assignments will be penalized 5 points per calendar day after this deadline.
Adjustment of Grades

Any adjustment to the grades of assignments, lab reports, or exams must be done within 10 calendar days after the graded work has been returned. For assignments and lab reports, students with questions regarding grading procedures should consult the TA responsible for grading the work. Students with questions regarding graded exams should consult Dr. Small.

Laboratory Notebooks

Each student must maintain a laboratory notebook. Specific instructions for keeping notebooks will be discussed in class. Points in the class grade are allocated for the completion of the notebook entries.

Examinations

The exams will focus on material presented in both the lecture and laboratory portions of the course. Exams 1 and 2 will be given during the normal lecture period. Exam 3 will be given during the final exam period assigned to the class. Exams 1, 2, and 3 will focus on Experiments 1-4, 5-8, and 9-11, respectively. Each exam will be cumulative relative to the statistics and data analysis material presented in the lecture portion of the course.

Lab Reports

A lab report will be required for each experiment. Items to include in the report are detailed at the end of each experiment information package. A Microsoft Excel template will be provided to you for use in generating the report. All lab reports must be submitted via ICON.

Laboratory Safety

Laboratory safety is a primary concern and you will be expected to act in a safe and professional manner. Eye protection is mandatory. Standard laboratory goggles are required and must be worn at all times, even if you are not actually performing an experiment. Lab coats and gloves are optional. Open toe shoes and short pants are not allowed in the lab.

Computer Usage

Each student will have access to computers in the departmental computer facility, which is located in W241 CB.

Equipment Policy

All glassware and other equipment received at the beginning of the semester by a student registered for a given course and assigned a drawer/locker is the responsibility of that student. On the day of check-in, the student must be certain that all the equipment required for the course is in the drawer, the glassware has no chips or cracks and that the equipment is in good working order. The Chemistry Department will replace any glassware or equipment that is defective at the time of check-in. At the end of the semester or at the time the student leaves the course, every piece of glassware and equipment must be returned to the Department without chips or cracks and in good working order. All pieces of glassware or equipment that are missing, broken, or not in good working order will be charged to the student through the University billing system after the close of the semester.

Policy on Academic Honesty

All work performed in this course is expected to be your own. Some laboratory experiments will be performed in groups of two. However, once you leave the laboratory, each student should prepare his/her own lab report. If you have questions regarding an experiment,
contact the instructor or teaching assistant. In grading the assignments and lab reports, the instructors will be looking for evidence of improper collaboration. If such evidence is found, all parties involved will receive no credit for the assignment. These principles also apply to the use of graded lab reports from previous years. **You will receive no credit if it is determined that the work you turn in is not your own.**
College of Liberal Arts and Sciences Policies*

Administrative Home

The College of Liberal Arts and Sciences is the administrative home of this course and governs matters such as the add/drop deadlines, the second-grade-only option, and other related issues. Different colleges may have different policies. Questions may be addressed to 120 Schaeffer Hall, or see the CLAS Academic Policies Handbook.

Electronic Communication

University policy specifies that students are responsible for all official correspondences sent to their University of Iowa e-mail address (@uiowa.edu). Faculty and students should use this account for correspondences. (Operations Manual, III.15.2. Scroll down to k.11.)

Accommodations for Disabilities

A student seeking academic accommodations should first register with Student Disability Services and then meet privately with the course instructor to make particular arrangements. See www.uiowa.edu/~sds/ for more information.

Academic Honesty

All CLAS students have, in essence, agreed to the College's Code of Academic Honesty: "I pledge to do my own academic work and to excel to the best of my abilities, upholding the IOWA Challenge. I promise not to lie about my academic work, to cheat, or to steal the words or ideas of others; nor will I help fellow students to violate the Code of Academic Honesty." Any student committing academic misconduct is reported to the College and placed on disciplinary probation or may be suspended or expelled (CLAS Academic Policies Handbook).

CLAS Final Examination Policies

The final examination schedule for each class is announced around the fifth week of the semester by the Registrar. Final exams are offered only during the official final examination period. No exams of any kind are allowed during the last week of classes. All students should plan on being at the UI through the final examination period. Once the Registrar has announced the dates and times of each final exam, the complete schedule will be published on the Registrar's web site.

Making a Suggestion or a Complaint

Students with a suggestion or complaint should first visit the instructor (and the course supervisor), and then with the departmental DEO. Complaints must be made within six months of the incident. See the CLAS Academic Policies Handbook.

Chemistry DEO: Mark Arnold, E331 CB, 335-1350

Understanding Sexual Harassment

Sexual harassment subverts the mission of the University and threatens the well-being of students, faculty, and staff. All members of the UI community have a responsibility to uphold this mission and to contribute to a safe environment that enhances learning. Incidents of sexual harassment should be reported immediately. See the UI Comprehensive Guide on Sexual Harassment for assistance, definitions, and the full University policy.
Reacting Safely to Severe Weather

In severe weather, class members should seek appropriate shelter immediately, leaving the classroom if necessary. The class will continue if possible when the event is over. For more information on Hawk Alert and the siren warning system, visit the Department of Public Safety web site.

*These CLAS policy and procedural statements have been summarized from the web pages of the College of Liberal Arts and Sciences and The University of Iowa Operations Manual.