

4:021 Basic Measurements
Fall Semester 2010

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, 2:30 – 5:20; E440 CB

Office Hours
During lab periods or Mondays 1:30 -2:30 in my office or by appointment.

Teaching Assistants
Tony Manuel, Hua Yu, Sanjeeewa Karunathilaka (See ICON for TA office hours and contact information)

Textbook
Quantitative Chemical Analysis, 7th edition (2007); Daniel C. Harris, W. H. Freeman & Co. Handouts will also be provided on ICON.

Web Materials
http://icon.uiowa.edu; 004:021:AAA Fall10 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 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. It is important that you attend 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.

Course Requirements

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Assignment</th>
<th>Points</th>
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</thead>
<tbody>
<tr>
<td>5</td>
<td>Spreadsheets (35 points each)</td>
<td>175</td>
</tr>
<tr>
<td>5</td>
<td>Lab Reports (35 points each)</td>
<td>175</td>
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<tr>
<td>7</td>
<td>Lab Reports (70 points each)</td>
<td>490</td>
</tr>
<tr>
<td>2</td>
<td>Exams (100 points each)</td>
<td>200</td>
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<tr>
<td></td>
<td><strong>Total Points</strong></td>
<td><strong>1040</strong></td>
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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.

Late Assignments

Assignments must be submitted on ICON by 6:00 p.m. on the specified due date. Late assignments will be penalized 5 points per calendar day after this deadline.

Laboratory Notebooks

Each student must maintain a laboratory notebook. Specific instructions for keeping notebooks will be discussed in class.

Examinations

The exams will focus on material presented in both the lecture, spreadsheet and laboratory portions of the course. Problems and discussion type questions will be included. Exam 1 will be given during a normal lecture period. Exam 2 will be given during the final exam period assigned to the class.

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. Reports must be neat and easy to follow. Headings for text sections are strongly encouraged and titles for plots are required. 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 Plagiarism

All work performed in this course is expected to be your own. Some laboratory experiments will be performed in groups of two or three. However, once you leave the laboratory, no
collaborative work is permitted. If you have questions regarding an experiment, see the instructor or consult the Discussion section of the ICON course web-site. In grading the assignments and lab reports, the instructors will be looking for evidence of collusion. 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 Student Academic 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 Fraud

Plagiarism and any other activities when students present work that is not their own are academic fraud. Academic fraud is a serious matter and is reported to the departmental DEO and to the Associate Dean for Undergraduate Programs and Curriculum. Instructors and DEOs decide on appropriate consequences at the departmental level while the Associate Dean enforces additional consequences at the collegiate level. See the CLAS Academic Fraud section of the Student Academic Handbook.

CLAS Final Examination Policies

Final exams may be offered only during finals week. No exams of any kind are allowed during the last week of classes. Students should not ask their instructor to reschedule a final exam since the College does not permit rescheduling of a final exam once the semester has begun. Questions should be addressed to the Associate Dean for Undergraduate Programs and Curriculum.

Making a Suggestion or a Complaint

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