Chemistry 2C
Instructor: Bryan Enderle, Ph.D.
Email: enderle@ucdavis.edu
Office Hours: TW 11:40 – 12:30 p.m.
Phone: 530-754-9501, Office: Sciences Lab Building 2033B
Class Info: TWR 10:00 – 11:40 a.m., Rock Hall
Web Page: access through http://smartsite.ucdavis.edu/
(It is your responsibility to check the web page for any pertinent announcements or information.)

Head TA: Tim Shelton
Office Hours: Posted on Class Web Page, Sciences Lab Building 1064 (or by appointment)
Email: tshelton@ucdavis.edu
All Other TA Office Hours: Posted on Class Web Page, Sciences Lab Building 1064
TA mailboxes: In the hall outside Chemistry 149.

Course Materials (Lecture & Discussion).
Enderle’s Chemistry 2C Lecture Notes & Practice Exams Readers (*Available at Davis Copy Maxx, 232 3rd St.*)
Mastering Chemistry Student Access Kit; Scientific Calculator
Student Solutions Manual and Study Guide for the text by Gelmini et al.

Course Materials (Laboratory) – Required.
*Chemistry 2C Laboratory Manual, Department of Chemistry, UCD (Summer 2015 version only)*
ANSI-compliant, indirectly-vented, chemical splash safety goggles; 100% cotton chemistry lab coat
Closed-toe, closed-heel shoes; clothing that completely covers your arms and legs (*lab only*)
Laboratory Notebook with carbon pages

Prerequisite. Chemistry 2B or 2BH

Course Content. The lectures will cover Chapters 19-27. Chemistry 2C is a continuation of 2B covering topics of kinetics, electrochemistry, spectroscopy, structure and bonding in transition metal compounds, and application of principles to chemical reactions. Laboratory experiments involve selected analytical methods and syntheses. You are responsible for all of this material, including any parts that may not be formally presented in lecture, unless explicitly directed otherwise in lecture. Readings and problems from the text will be assigned. While the problems may not be collected or graded, it is critical that you do these (and as many additional problems as possible) in order to succeed in the class. A tentative schedule of lecture assignments is given on Page 3 of this syllabus.

Course Goals & Objectives.
- Integrate concepts/equations and apply them to chemical problems associated with the topics covered.
- Understand and use correct nomenclature for electrochemistry, kinetics, transition metal, main group, organic, and nuclear chemistry.
- Relate electrochemistry and kinetic equations to thermodynamics, chemical reactions, and reaction parameters.
- Identify class of chemical reactions, the relationship between structure and bonding, and the periodic trends allowing for prediction of products from chemical reactions.
- Predict structure, including isomerism and the interrelationship between structure and properties.
- Understand fundamental process of nuclear chemistry and the application of kinetics to nuclear decay.
- Connect the topics to application in daily life situations.
Examinations. One examination will be given during the lecture on Thursday July 9th (10:00 am) in assigned rooms. The exam cover all material (lecture and laboratory) since the start of the quarter. The final examination will be given during the lecture on Thursday July 30th (10:00 am). You must bring you student ID to the examinations. No early, late, or make-up exams will be given. It is the student's responsibility to talk to the head TA at least 2 weeks ahead of exam dates regarding conflicts or special needs. During exams, you must put your lab section and multiple choice answers on the front page else forfeit 10 points automatically. Exams will be handed back during the laboratory period. You must review your exam and compare to the answer key before leaving the laboratory. If you would like the TAs to review your Exam for a re-grade, you must write your reasons on the front page and return the Exam to your TA before you leave. Once you leave the laboratory class, you may not turn in your exam for a re-grade. Inconsistencies or other "special request" in the SmartSite Gradebook must be resolved by the date set by the course instructor. Finally, SDC students must provide official documentation at least two weeks ahead of time from the SDC in order for your accommodations to be processed. The Head TA will process all your paperwork unless you request otherwise from the instructor before the paperwork is sent.

Discussion and Laboratory. These are handled by TAs. The times and rooms of your 1-hour discussion and 3-hour laboratory depend on your particular section. A schedule for the laboratory will be given during the laboratory section. Note that the labs start the week of June 22nd. You must submit a report detailing your laboratory results at the beginning of the laboratory period immediately following the one in which the experiment was completed. You must attend and complete all laboratories to be eligible to pass the class. A failure in laboratory (< 50%) will result in a failure in the entire course. Safety rules, proper lab technique, appropriate clothing (PPE), and appropriate behavior are strictly enforced. The TAs, lab supervisor, and instructor reserve the right to remove any student from lab for unsafe or disruptive behavior resulting in a referral to SJA, a failure of that lab, and possibly the lab and lecture portion of the course. You must report any grade or points-earned issues either (1) 1 week after the due date or (2) 1 day before the final, whichever is earlier. Failure to do so will result in no change to your grade or points-earned.

Fees. Chemistry 2C has a Course Material Fee of $52.

Enrollment Issues.
- All enrollment issues should be directed to the Head TA. You may contact the Head TA through email or see the head TA during the scheduled office hours.
- If you wish to add this course, you should be present at the start of the laboratory period of the section you want. If there is space in the section, the Head TA will give you a PTA number, which will allow you to add the course.
- You cannot add the course without a PTA number. These are available only from the Head TA and subject to available space in the particular laboratory section. You can drop the course anytime before the drop date.
- You must be present at the start of your first laboratory period in order to keep you enrollment in the course. If you are not present, you forfeit your enrollment.
- The R0 section is only open to students who are repeating the course and have completed the satisfactorily the laboratory at UCD. Non-repeaters who enroll in the R0 section must drop and enroll in the correct section.
- If you are repeating the course and have previously completed the lab, see the Head TA as soon as possible. You are not excused from the lab until the Head TA checks that your previous lab score is satisfactory. If you are excused from the lab, the Head TA will assign you a discussion section to attend that accommodates you class schedule; formally, however, you will remain enrolled in the R0 section.

Cheating/Plagiarism. Cheating or plagiarism will result in a referral to Student Judicial Affairs (SJA), automatic failure of the respective assignment, and may result in dismissal/suspension from the class. In laboratory, all students must use the data collected during your laboratory period to finish each post-laboratory exercise. Students are not allowed to copy data or calculations from any other person. Post-laboratory exercises must be done entirely independently of your lab partner or other persons. All suspected violations will be referred to SJA.
**Grading.** The Exam is worth 40%; the Final is worth 40%; the Laboratory is worth 13%, and the Online Homework (MasteringChemistry) is worth 7%. There is also an optional MasteringChemistry homework for extra credit, which is separate from the required homework set. Students who fail to complete the correct homework set cannot have extensions nor will it count. Students must complete **all** laboratory experiments and turn in an acceptable report for each experiment in order to pass the course. Students who do not pass the lab portion of the course will receive an automatic failure in the course as a whole regardless of exam scores. Any excused absences of any kind must be accompanied by appropriate documentation for verification.

Final Grade % = [(Exam%) x 0.40] + [(Lab%) x 0.13] + [(Final%) x 0.40] + [(HW%) x 7%]

**Tutoring.** Take advantage of the Student Academic Success Center Workshops. Call 752-2013 or visit http://www.lsc.ucdavis.edu and click on the Workshops tab for more information. Sign up for these classes in 2205 Dutton Hall. Chemistry graduate students tutors can be found at: http://chemistry.ucdavis.edu/undergraduate/tutors_in_chemistry.html

**Useful Web Links.**
Petition for Repeaters & Chemistry 2C Lab Manuals
http://chemistry.ucdavis.edu/undergraduate/chemistry_2_series.html
Dr. E’s Online Videos of Practice Problems
http://www.youtube.com/EnderlePhD (select appropriate playlist)

**Tentative Lecture Schedule and Course Content.** The schedule and material covered during examinations are subject to change at the discretion of the instructor.

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<th>Week of</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
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<tbody>
<tr>
<td>June 22</td>
<td>Intro, Electrochem</td>
<td>Electrochem</td>
<td>Electrochem</td>
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<tr>
<td>June 29</td>
<td>Transition Metals</td>
<td>Transition Metals</td>
<td>Transition Metals</td>
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<tr>
<td>July 6</td>
<td>Main Group</td>
<td>Main Group</td>
<td>Exam</td>
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<tr>
<td>July 13</td>
<td>Kinetics</td>
<td>Kinetics</td>
<td>Kinetics, Organic</td>
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<td>July 20</td>
<td>Organic</td>
<td>Organic</td>
<td>Organic, Nuclear</td>
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<tr>
<td>July 27</td>
<td>Nuclear</td>
<td>Nuclear</td>
<td>Final Exam</td>
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Chemistry 2C Laboratory Information & Schedule

Students must read the laboratory experiment, complete the pre-laboratory assignment, and complete the online pre-laboratory quiz at least 1 hour before coming to class. If you have any questions about the experiment to be performed, be prepared to ask your TA during your pre-lab introduction. All experimental data and observations will be taken directly into the laboratory notebook. Your TA must initial these entries each day before leaving the laboratory. A student must complete all labs and submit a laboratory report for all of the assigned laboratory work in order to pass the course. All laboratory work (including the online post-labs) must be submitted before the next normally scheduled laboratory meeting or at the time indicated by the teaching assistant.

A laboratory report consists of:
Title, Purpose, Procedure, Data Tables
These constitute the prelab and must be prepared prior to coming to lab. Blank data tables should be made before lab. The prelab quiz is completed online at least 1 hour before coming to lab.

Data, Calculations, Questions, Results, Summary, Conclusion
These are done outside of lab time. The conclusion is to consist of a couple of well-written paragraphs discussing the results and possible sources of errors.

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<tr>
<th>Week</th>
<th>Week Beginning</th>
<th>Experiment</th>
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| 1    | June 22        | Check In / Safety / Redox / Electrochem  
|      |                | Take Online Nomenclature Quiz           |
| 2    | June 29        | EDTA / Inorganic Qualitative Analysis  
|      |                | **Nomenclature Quiz Due By Lab**        |
| 3    | July 6         | Synthesis of Coordination Compounds      |
| 4    | July 13        | Spectrophotometry & Kinetics             |
| 5    | July 20        | Vitamin C Determination & Check Out      |
| 6    | July 27        | No Lab                                  |